MURRAY–DARLING BASIN COMMISSION

Annual Report 2005–2006

To the Parliaments of the Australian Government, New South Wales, Victoria, South Australia and Queensland; the Legislative Assembly of the Australian Capital Territory; and the Australian Community

This report includes the annual report of the Murray-Darling Basin Ministerial Council's Community Advisory Committee

MURRAY-DARLING BASIN COMMISSION

The **purpose** of the partnership of the six member governments of the Murray-Darling Basin Agreement is to:

> …promote and coordinate **effective planning and management** for the **equitable, efficient and sustainable use** of the water, land and other environmental resources of the Murray-Darling Basin.

The **functions** of the Commission are to:

- advise the Ministerial Council in relation to the planning, development and management of the water, land and other environmental resources of the Murray-Darling Basin
- assist the Ministerial Council in developing measures for the equitable, efficient and sustainable use of water, land and other environmental resources of the Murray-Darling Basin
- coordinate the implementation of or, where the Ministerial Council so requires, to implement any measures authorised by the Ministerial Council
- give effect to any policy or decision of the Ministerial Council, which the Ministerial Council requires the Commission to implement.

MURRAY-DARLING BASIN COMMISSION

Annual Report 2005–2006

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29 September 2006
The Hon Peter McGauran MP
Minister for Agriculture, Fisheries and Forestry,
Parliament House
CANBERRA ACT 2600

Dear Minister,

In accordance with Clause 84(1) of the Murray-Darling Basin Agreement 1992 it is my pleasure to submit the annual report and financial statements for the Murray-Darling Basin Commission covering the year ended 30 June 2006. The Report and Financial Statements are for tabling before the Parliaments of Australia, New South Wales, Victoria, South Australia and Queensland and the Legislative Assembly of the Australian Capital Territory.

Last year I reported drier than average conditions throughout the Basin and greatly regret that seasonal weather patterns this year have not improved. Prospects for the substantial rain needed to replenish storages and water the Basin particularly in the winter rainfall zone are bleak.

Delivering the water available with minimal losses to irrigators, communities and the environment and progressing The Living Murray initiative have been the major activities.

Salinity recordings are presently low but there should be an awareness that this will almost certainly change when the seasonal break does occur.

I commend the 2005-06 Annual Report to the five Parliaments and the Legislative Assembly and look forward to the partner governments' ongoing support for the Murray-Darling Basin Initiative.

Yours sincerely,

Rt Hon Ian Sinclair AC
President
Murray-Darling Basin Commission

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The images on pages 50 and 77 are from *Living Landscapes: Writing and art by children of the Murray-Darling Basin*, MDBC and Primary English Teaching Association (NSW), 2005.

Acknowledgments

The preparation of this report would not have been possible without the support and assistance of staff from the jurisdictions.

The assistance of staff in the MDBC Office is also gratefully acknowledged, in particular the editorial committee: Charlotte Keller, Tony Morse, Lawrie Kirk, Sheridan Lockerbie and Allison Hicks.

Abbreviations and acronyms

AEIFRS	Australian Equivalents to International Financial Reporting Standards
Agreement	1992 Murray-Darling Basin Agreement
ALARP	as low as reasonably practical
ANCOLD	Australian National Committee on Large Dams
ASDD	Australian Spatial Data Directory
BISY	Bushfire Impact on Streamflow Yield
BSMS	Basin Salinity Management Strategy
CAC	Community Advisory Committee
Cap	Cap on water diversions
CMA	Catchment Management Authority
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CRC	Cooperative Research Centre
DPI	Department of Primary Industries (New South Wales)
DSE	Department of Sustainability and Environment (Victoria)
EC	electrical conductivity
EWMP	Environmental Works and Measures Program
GIS	Geographical Information Systems
GL	gigalitre
IAG	Independent Audit Group
IBR	Integrated Basin Reporting
ICT	Information Communications Technology
IGA	inter-governmental agreement
ITIL	Information and Technology Information Library
Initiative	Murray-Darling Basin Initiative
JGE	joint government enterprise
KPI	key performance indicator
MDB	Murray-Darling Basin
MDBC	Murray-Darling Basin Commission
MDFRC	Murray-Darling Freshwater Research Centre
Ministerial Council	Murray-Darling Basin Ministerial Council

ML	megalitre
MLDRIN	Murray Lower Darling Rivers Indigenous Nations
NAP	National Action Plan for Salinity and Water Quality
NFS	Native Fish Strategy
NHT	Natural Heritage Trust
NMA	National Museum of Australia
NRM	natural resource management
NWC	National Water Commission
NWI	National Water Initiative
OH&S	occupational health and safety
PIT	Passive Integrated Transponder
PMDS	Performance Management and Development System
REP2	*NSW Murray Regional Environmental Plan No 2*
RMW	River Murray Water
SARDI	South Australian Research & Development Institute
SIS	salt interception scheme
SI&E	Strategic Investigations and Education
SRA	Sustainable Rivers Audit
TLM	The Living Murray

About this report

The Murray-Darling Basin Commission (MDBC) is a unique organisation, involving the Australian, New South Wales, Victorian, South Australian, Queensland and Australian Capital Territory governments.

This report describes the objectives and significant achievements of the MDBC during the 2005–06 financial year. It is tabled before the parliaments of each jurisdiction through the Murray-Darling Basin Ministerial Council (Ministerial Council). This tabling process has been developed to meet the requirements of the 1992 Murray-Darling Basin Agreement (the Agreement), which has been incorporated into legislation and passed by the Australian Parliament and state parliaments that have jurisdiction in the Murray-Darling Basin (the Basin). The Australian Capital Territory this year became a full member of the Agreement, building on its past contribution and participation.

The MDBC undertakes activities at the direction of its Ministerial Council, and coordinates the efforts of the government partners to the Murray-Darling Basin Initiative (the Initiative)—the partnership between the governments and the community that has been established to give effect to the Agreement. It supports actions by communities and government within the Basin

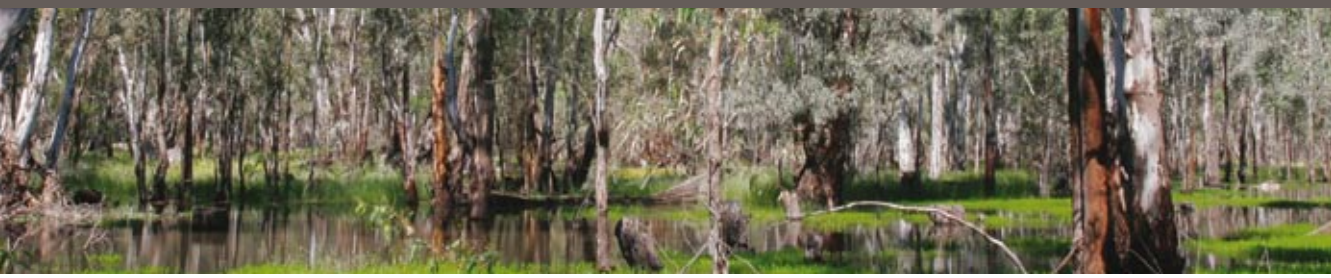
This annual report focuses on those activities that the MDBC has carried out on behalf of Ministerial Council in 2005–06. Information on the 2005–06 activities of the partners to the Initiative will be available through the partner governments' departmental annual reports.

The format of this annual report has changed from that of previous years. With the introduction of the new MDBC Strategic Plan 2005–06 to 2009–10, activities are reported here according to the three major objectives under the plan (Parts 1, 2 and 3) and the strategies associated with them. Each objective has key performance indicators as targets for achievement of the plan; these are summarised in a new appendix to this report, Appendix F.

As the Strategic Plan was finalised during the reporting period, detailed assessment against each key performance indicator does not appear in this report—the period covered by the report is a period when the Strategic Plan and its supporting Business and Operating Plans began to be implemented. This implementation will lead to more detailed reporting on key performance indicators in 2006–07.

This annual report also incorporates the annual report of the Ministerial Council's Community Advisory Committee, the primary community body advising the Ministerial Council on natural resource management issues in the Basin.

An online version of this report can be found at www.mdbc.gov.au. A separate extract and summary of the key achievements for this year, *2005–06: The Year in Review*, is also available from the MDBC Office.



The year in review

From the Chief Executive

The last five years have produced the lowest inflow on record into the Murray River and this has continued to challenge irrigators, communities and the environment. We seem to be witnessing a new chapter in dealing with drought in the Murray-Darling Basin.

Murray-Darling Basin Commission (MDBC) activities have been focused on maximising water delivery and the MDBC completed the first major water delivery for the icon sites under The Living Murray. It made better use of available river water and an additional 11 GL from the Snowy and 513 GL from New South Wales and Victoria for Barmah–Millewa, resulting in the watering of more than 36,000 ha at icon sites.

Low rainfall contributed to continuing lower salinity levels at Morgan and our first public private partnership in salt interception was commissioned at Pyramid Creek. The South Eastern Australian Climate Initiative, involving $7 million over three years and six organisations, was launched and Ministerial Council released a CSIRO review on potential impacts on shared water resources of a range of risks.

Modelling of water issues has been stepped up to assist in resolving some of the challenging issues we now face. Work continued on improving occupational health and safety and conditions of the Commission's physical asset base – in particular at Yarrawonga, Dartmouth, Hume and a number of locks. The River Channel improvement program undertook work at three locations. Dredging the Murray Mouth achieved the desired channels for the first time.

The year was notable for the completion of the 5-year Strategic Plan, a revision of the Commission Committee structure and, at the close of the year, an Australian Government budget contribution of $500 million to the MDBC for the next five years to accelerate implementation of Ministerial Council decisions and the Environmental Works and Measures Program and speed up water recovery under The Living Murray.

As another first, the President of the Commission signed a memorandum of understanding with the Murray Lower Darling Rivers Indigenous Nations.

The year has been another one of significant change for the organisation. I would like to acknowledge the support of the President, Commissioners and particularly the executive and staff of the organisation, whose professionalism and commitment are outstanding.

I am looking forward to 2006–07 when we can continue implementing our challenging program work with certainty over the next five years.

Wendy Craik
Chief Executive

Overview

The **Murray-Darling Basin Commission (MDBC), as a partnership** of the six Basin governments (including the Australian Government), exists to achieve the best integrated catchment management outcomes for the shared resources of the Basin. Primary responsibility for managing land and water resources lies with individual state and territory governments. The Commission concentrates on Basin-wide issues that require the joint action of partners to deliver the best outcomes for the Basin's communities, industries and natural resource base – particularly related to its shared water resources.

Chaired by an independent President, the Commission is an unincorporated joint venture, comprising representatives (Commissioners) appointed by partner governments having responsibility for land, water and environment. The Commission supports the **Murray-Darling Basin Ministerial Council** to achieve its purposes under the 1992 Murray-Darling Basin Agreement by:

1. securing the cooperation of partner jurisdictions
2. delegating, where necessary, work to its committees and working groups, whose appointed members include Commissioners, senior officers, experts appointed by partner governments and representatives from the Council's Community Advisory Committee
3. directing the activities of the Commission Office.

While servicing the Council directly, the Chair and Deputy Chair of the Council's Community Advisory Committee also provide a community perspective to the Commission.

The **Commission Office** provides secretariat, administrative, technical and river operations, and policy support to the Commission and Council. The Office has three operating Divisions: the Natural Resources Management Division, River Murray Water and the Corporate Services Division, as well as a Communications unit that reports directly to the Chief Executive.

The primary clients of the Commission Office are the partner governments and their agencies. Commission Office staff work collaboratively with them to facilitate and coordinate development, implementation and review of Council policies and decisions.

Since the signing of the Agreement in 1992, governments have effected significant reforms in the management of natural resources. As a result, the institutional landscape in which the Commission operates has changed substantially. A wide range of organisations now contribute to delivering optimal natural resource outcomes for the Basin (see Figure 1).

In recent years, jurisdictions have created and strengthened the **role of regional catchment management organisations** (catchment management authorities and their equivalents). These organisations have taken on an increasingly important role in managing land and water resources and have a vital role to play on behalf of jurisdictions in implementing Council and Commission policies and decisions at a local level.

To minimise duplication and ensure coordinated natural resource management in the Basin, the Commission Office, together with the partner government agencies, also works cooperatively with business enterprises such as Snowy Hydro Ltd and 'Water for Rivers' (Joint Government Enterprise Ltd), irrigation and water businesses, industry and environmental bodies, research bodies, local governments and community groups including Indigenous groups.

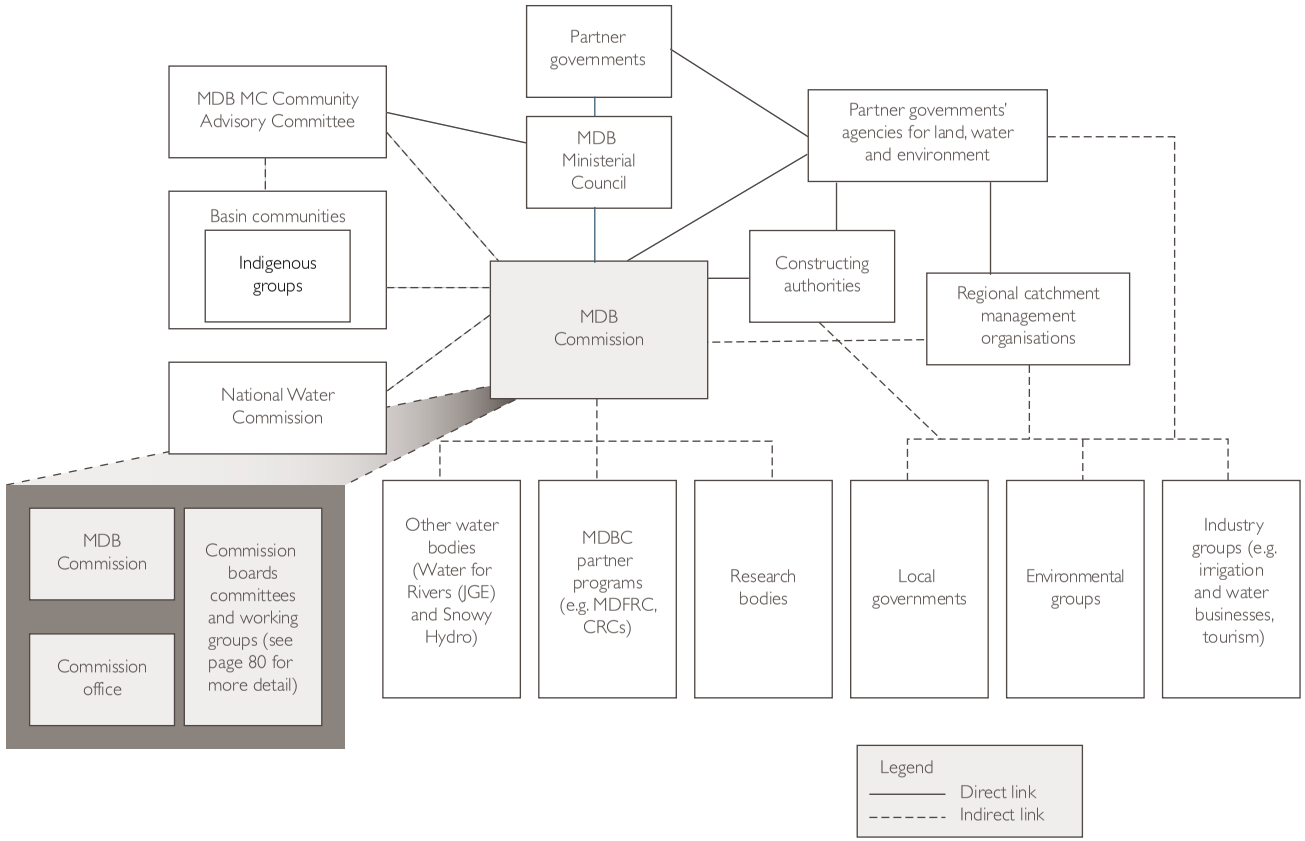
In March 2006, the **Murray Lower Darling Rivers Indigenous Nations** and the Murray-Darling Basin Commission together signed a memorandum of understanding (MOU) that recognises these organisations' many shared interests and goals regarding the management of the lands and waters of the Murray and Lower Darling Rivers Basin.

The 2005-06 reporting year was the first year of operation of the **MDBC Strategic Plan 2005–2010**. The Strategic Plan was formally approved by Ministerial Council in September 2005. A key element in the delivery of the plan has been agreement to revised governance arrangements within the Commission. Central to this change has been the new high-level committee structure (see page 80).

The first major task of the new committees was to oversight a full-scale review of all program activities as a lead in to the priority setting and forward planning processes for the 2006–07 budget. This included a series of independent cost efficiency and effectiveness reviews on major expenditure programs.

The rigour of this process left the Commission well placed to handle the welcome increase in funding that has flowed from the **Australian Government's commitment of an additional $500 million** to the Commission programs announced in the federal budget in May 2006. This funding is earmarked by the Council to ensure that already agreed programs can be delivered and that the water recovery

Figure 1 Murray-Darling Basin Commission and its partners



and environmental works associated with The Living Murray First Step Decision can be delivered.

The additional Australian Government funding commitment has been complemented by the support of other jurisdictions to maintain the existing level of funding to the Commission for at least the next five years (to 2011–12).

For the first time, the Basin is subject to the full impact of both an **extended period of drought** and highly regulated and utilised river systems. We have experienced these impacts separately in the past – in river regulation and increasing diversions since the 1970s and long drought periods in the 1890s and 1940s – but now they are occurring together.

The outlook for the total system in the Murray-Darling Basin for 2005–06 indicates that, even under average conditions, the **volumes in storage are likely to remain well below average levels**. The absence of small floods under the combined effect of regulation and drought over the past eight years is sobering. Such floods are critical to the health of the wetlands, lakes, floodplains and estuarine ecosystems. The number of stressed or dying River red gum and Black box trees across the lower Murray floodplain reflects this. The proportion of trees surveyed that were considered stressed has risen from an already high level of 50 per cent to 75 per cent over the last two years. Since October 2002, the Commission has been funding a program of dredging at the Murray Mouth to ensure it remains open.

Progressive deterioration of a River red gum tree on the Chowilla Floodplain in South Australia, tracked from 1992 (left), to 2001 (centre), to 2006 (right).

Winter and spring 2005 saw above-average rainfall across much of the Basin. However, with catchments quite dry following four years or more of drought, runoff to rivers was below average. From December 2005 to June 2006, there was a reversion to extreme dry and hot conditions resulting in Murray system inflows, for the six-month period ending June 2006, being the driest in 114 years of records.

Despite the prevailing climatic conditions the 2005–06 season was the **most active period of environmental management in the history of Murray River regulation**. Over 36,000 hectares at some of the icon sites were deliberately watered for environmental purposes in July 2005 and February 2006. This represented about 10 per cent of the total area of the icon sites.

Some of the key activities were:

1. Barmah–Millewa watering to achieve one of the most significant waterbird and fish breeding events in recent decades.
2. Cooperation between River Murray Water, The Living Murray environmental delivery team and the state natural resource agencies to achieve raising and lowering of locks and weirs to achieve environmental outcomes, watering of parts of the floodplain that have not been subject to flooding for up to ten years.
3. Watering of thousands of hectares of drought-stressed River red gums using Snowy River water, surplus and above entitlement flows.
4. First construction of structures, other than fishways, under Environmental Works and Measures Program (EWMP) for delivery of water recovered for the environment.
5. Freshening of the Coorong through increased fresh water flows through the Barrages.
6. Completion of two fishways at Locks 9 and 10 as part of the Sea to Hume fish passage.
7. Connectivity between the sea and Coorong maintained.

Progress on **water recovery** for The Living Murray has been slow and actions have been undertaken to significantly increase the likelihood of achieving the agreed water recovery targets. This includes the provision of additional investment in water recovery activities and feasibility assessments.

Individual jurisdictions are pursuing all avenues to recover the 500 GL required for the First Step Decision. Innovative market based measures such as the Australian Government water tender project is an important new initiative in this regard.

The Commission also continues to monitor the **implementation of the Cap** on diversions in the Basin. The Independent Audit Group reported to Commission in March 2006 on the implementation of the Cap in each jurisdiction.

On the basis of this report the Commission declared the Barwon–Darling/Lower Darling valley in continued breach of the Cap in March 2006. New South Wales reported to Ministerial Council in May 2006 the management actions proposed and the time it will take to bring diversions within Cap limits.

There was also significant progress made on the **Basin Salinity Management Strategy**, including Victorian end-of-valley salinity targets set for each tributary so that all major Basin states now have salinity targets for their rivers.

Optimal performance outcomes were also delivered against agreed salinity benefits for each of the eight jointly funded salt interception schemes along the Murray River:

In addition, Pyramid Creek Salt Interception and Harvesting Scheme was awarded the **2006 Engineers Australia National Salinity Prize** for new technology and other practical outcomes in tackling salinity.

The **Sustainable Rivers Audit** has developed indicators and methods for river health assessment that are robust and consistent across catchments and jurisdictions and will be used repeatedly over time. The first year of the Basin-wide audit of fish and macroinvertebrates under the Sustainable Rivers Audit was reported to Commission in March 2006. A progress report has been approved by Ministerial Council for public release, with the sampling data from the first full year of monitoring now available to the public. Sampling is also complete for the second year of the three-year sampling program.

The implementation of the **Native Fish Strategy** has seen significant progress over the past year, with the completion of the Lock 9 fishway, workshops on demonstration reaches and their initiation in Queensland, New South Wales and South Australia and the inaugural Native Fish Strategy Forum being held in Canberra.

Resnagging the Murray River under the Native Fish Strategy, utilising The Living Murray Initiative funds.

(Photo: Michael Bell)

The Sea to Hume fishways program completed the concept design for the Lock 3 fishway, detailed design at Lock 1 and construction of the Lock 10 fishway. Monitoring of fish passage at Locks and Weirs 7, 8 and 9 has already shown encouraging signs, with target species and size of fish achieving passage.

The Commission also provided over $1 million in 2005–06 to the new Invasive Animals CRC for continuation of a major program aimed at the long-term control of carp.

Work continued on the development of a policy framework within which the **Risks to Shared Water Resources** could be addressed. Two reports prepared for the Commission were released: the first report outlined the hydrology and key water resource strategies of the Basin and the second report examined the nature and extent of each risk and suggested further work to improve understanding and management of the impact of each risk.

The launch of the South Eastern Australian Climate Initiative, a collaborative joint venture aimed at improving understanding of climate change and improving climate forecasting measures, was a major achievement of the past year.

During the year the Commission has also been involved in a range of **National Water Initiative (NWI)** activities. This involvement has been undertaken through membership on committees, written submissions and the provision of data and information. Key areas of engagement have been the Australian Water Resources 2005 baseline assessment, and the development of water accounting systems and compatible water registers. The Commission has also commenced a review of the Murray-Darling Basin Agreement to ensure consistency with the NWI.

Approval by the jurisdictions and Ministerial Council in May 2006 of Schedule E of the Murray-Darling Basin Agreement, which allows for **expanded permanent and temporary trade** across southern Murray-Darling Basin, was an important step forward for rural industries dependent on irrigation water.

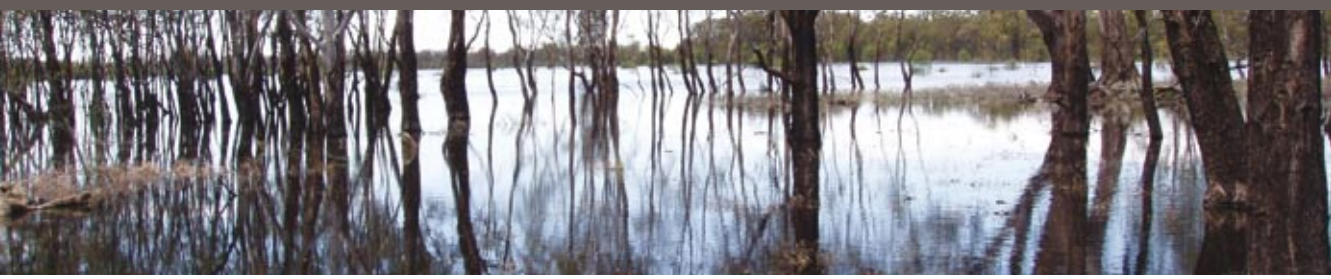
The Council also welcomed the announcement by New South Wales, Victoria and South Australia to an agreement allowing rapid introduction of an interim pilot tagged trading scheme to operate, using the temporary trade provision in the revised Schedule E.

Another important step forward was the introduction of **integrated Basin-level reporting**, which will eventually provide a complete overview of biophysical information held by the MDBC Office and highlight outcomes and interactions, allowing emerging issues and future priorities and directions to be identified.

2005 MDBC International River Health Conference, Mildura

Another achievement during the year was the **MDBC International River Health Conference**. The Commission was the major sponsor of this youth conference, held in October 2005 at Mildura adjacent to the Murray River. Over 540 students and 130 teachers from around Australia and overseas attended. They shared experiences and knowledge about the current and future management of natural resources. The conference was an outstanding success and was a complementary event to other regional youth conferences that the MDBC supported within the Basin.

The Commission has a **challenging work program** in place to address key water and natural resource management issues impacting on the basin. With greater certainty of funding over the next five years, given the Australian Government's $500 million in additional funding and jurisdictional funding commitments, the focus is now on delivery of approved programs and projects.



Part 1: Protect and enhance the shared water resources and environmental assets of the Basin

Strategy 1.1

Coordinate the implementation of The Living Murray

In April 2005, the Ministerial Council activated The Living Murray Business Plan. The plan describes how the MDBC will implement the actions and milestones in the MDB Intergovernmental Agreement for the Murray-Darling Basin and Australian governments to recover up to 500GL for the environment. This includes the $500 million commitment under COAG by the New South Wales, Victorian, South Australian, Australian Capital Territory and Australian governments. There is also $150 million for the Environmental Works and Measures Program agreed by the Ministerial Council. This funding will address water over-allocation within the Murray-Darling Basin, with an initial focus on achieving environmental results at six Murray River icon sites, and support an environmental works and measures program.

The Living Murray six icon sites are:

- Barmah–Millewa Forest
- Gunbower–Koondrook–Perricoota Forest
- Hattah Lakes
- the Chowilla Floodplain, Lindsay and Wallpolla islands
- the Lower Lakes, Coorong and Murray Mouth
- the River Murray Channel.

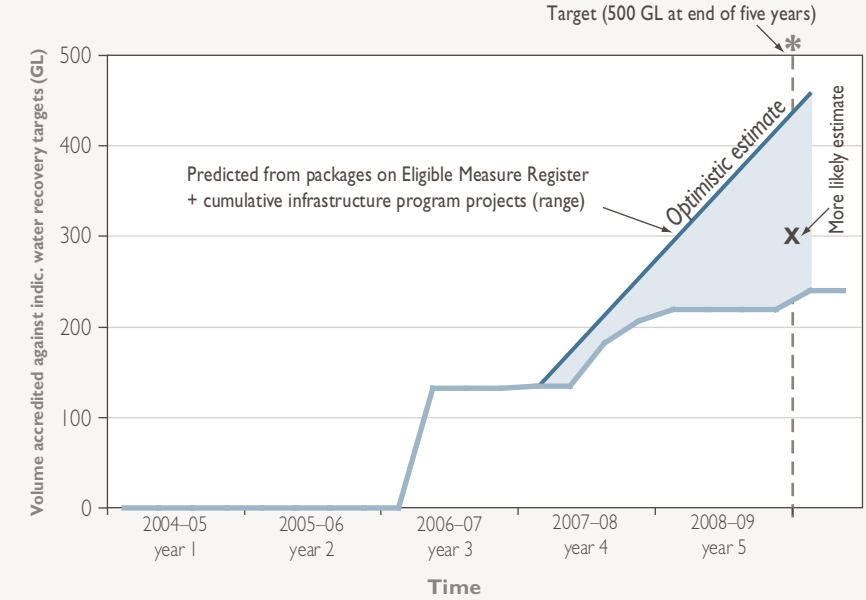
Water recovery progress

In September 2005, the Ministerial Council considered progress on The Living Murray and publicly acknowledged the challenges in achieving the water recovery targets in the First Step Decision. Council released a chart (Figure 2), which suggests that the water recovery targets will not be met unless additional water recovery opportunities are created.

Egret feeds on small fish on the shores of Lake Albert near Meningie, South Australia

(Photo: Arthur Mostead)

Figure 2 **Projection of water recovery based on a known series of projects, as at September 2005**



In response, actions have been undertaken to significantly increase the likelihood of achievement of the agreed water recovery targets. These actions include:

- provision of additional funds for investment in water recovery from the 2006–07 federal budget
- development of a mix of water recovery strategies to achieve agreed water recovery targets in South Australia and New South Wales
- continued progress towards implementing Victoria's 145 GL Goulburn–Murray Water Recovery Project
- Australian Government water tender process
- exploration of the use of market-based measures, including the preparation and release of the paper *Issues and options in applying market-based measures in The Living Murray First Step*. This paper has a focus on safeguards within the water market.

Further, eight new feasibility assessments of water recovery measures have been initiated in addition to the ten previously funded. Four of these measures are of infrastructure-based water recovery projects, two relate to on-farm projects, and two relate to market-based measures.

Delivery of environmental water

Planning and policy development

The Environmental Delivery Program continued development of The Living Murray Environmental Watering Plan and the Environmental Management Plans for the icon sites.

In support of the development of the environmental watering plan, work progressed on the:

- Barmah–Millewa Environmental Water Allocation operating rules
- interim rules for the use of River Murray Increased Flows
- scoping report for coordination of The Living Murray and the Basin Salinity Management Strategy
- development of a new operating strategy for the Murray Mouth barrages.

The Environmental Delivery Program continued to provide executive support for the Environmental Watering Group, which is the lead committee under the MDBC for developing and implementing water application arrangements for the icon sites in accordance with The Living Murray (TLM) Business Plan. The Environmental Watering Group met on eight occasions during 2005–06.

Environmental operations

The 2005–06 season was the most active period of environmental management in the history of Murray River regulation. Over 36 000 hectares at some of the icon sites were deliberately watered for environmental purposes in July 2005 and February 2006. This represents about 10 per cent of the total area of the icon sites, excluding the River Murray Channel, and has been achieved despite the ongoing drought. For example, 513 GL was released to water the Barmah–Millewa Forests, the barrages remained partially open for the entire season and the system was manipulated to use available water to deliver environmental benefits without compromising delivery (see box page 15).

The benefits from environmental watering in 2005–06 have been significant. The use of existing environmental allocations, plus new and existing infrastructure and improved planning and cooperation through The Living Murray, has contributed to substantial environmental improvement this season. The Environmental Delivery Program funded monitoring activities and provided significant human resources to work with River Murray Water to deliver these outcomes across the river system.

Environmental results on the Murray River

An accumulated five years worth of the Barmah–Millewa Forest Environmental Water Allocation (513 GL) was released, to achieve one of the most significant waterbird breeding events in recent decades, and the spawning of threatened fish such as silver perch. The water breeding event included colonial nesting birds such as egrets and ibis.

The Australian and Victorian governments supported the delivery of environmental water through the River Red Gum Rescue Package. Environmental water delivery was enhanced through various other means such as flow enhancement, pumping and siphoning and weir manipulation (at Locks 1, 4, 5, 6, and 8). Regulated channels and creeks were used to reinvigorate stressed floodplain vegetation including River red gums, and to fill wetlands across Gunbower–Koondrook–Perricoota Forest, Hattah Lakes, the Chowilla Floodplain and Lindsay and Wallpolla islands and the River Murray Channel.

Over 600 GL of water was released through the barrages at the Murray Mouth to provide temporary freshening of parts of the Coorong; and continuous operation of fishways at Goolwa and Tauwitchere barrages to allow thousands of native fish to pass through, collectively using less than 100 ML per day. Boundary Creek has also been opened for the first time in many years, resulting in a return of estuarine conditions.

Monitoring

The Living Murray Outcomes Evaluation Framework was progressed to meet the requirements of TLM Business Plan. The framework will guide the development of monitoring and evaluation arrangements across the six icon sites. In addition, the Environmental Delivery Program funded a range of monitoring activities across the icon sites, many of which have established the results from environmental operations in the past season.

Reporting

With support from icon site managers, the Environmental Delivery Program developed *Water application across the River Murray system and Icon Sites: Status Report February 2006* for the Environmental Watering Group. The report reviews the implementation of the 'Water Application' section in TLM Business Plan over an 18-month period to February 2006, and focuses primarily on actions since Spring 2005—a time when favourable river flow conditions provided extensive opportunities for environmental watering.

The Living Murray Environmental Works and Measures Program

The Environmental Works and Measures Program (EWMP) aims to provide the systems and structures required to deliver and manage environmental flows to improve the health of the icon sites. This is being done by:

- making the best use of water currently in the River Murray system
- optimising the benefits of any additional water.

Initial investment through The Living Murray's First Step was $150 million. Further funding was provided by the Australian Government in 2006 to accelerate key activities.

In 2005–06, the program moved into its third year of operation with 29 projects implemented across the six icon sites or as complementary investigations and actions. Investigation and planning activities occurred at all of the icon sites in 2005–06.

By June 2006, $12.2 million had been expended on a wide range of activities, including $6.9 million for investigation and planning activities.

Packer's Crossing Regulator, Darling Anabranch

(Photo MDBA)

Investigation and Planning Achievements 2005–06:

Barmah–Millewa Forest	• Completion of feasibility studies for enhanced water management throughout the Barmah Forest including the development of a hydraulic model.
Gunbower–Koondrook–Perricoota Forest	• Continued feasibility studies for the Torrumbarry cutting and a channel to deliver water into the Koondrook–Perricoota Forest from the Torrumbarry weir pool.
Chowilla Floodplain Lindsay and Wallpolla islands	• Evaluation of the potential ecological benefits for Mulcra Island of Lock 8 weir pool raising. • Approval for a trial groundwater management project on the Bookpurnong Floodplain. • Concept designs for new regulating structures for Chowilla Creek, Pipeclay Creek Weir, Slaney's Creek Weir and Bank E. Development of a hydro-dynamic model of the Chowilla Floodplain. • Investigation of the potential impacts on floodplain health from a groundwater lowering and salt interception scheme.
Hattah Lakes	• Feasibility study of the effectiveness of five new regulators and a pumping station to deliver water to priority areas of the lakes system, including development of an hydraulic model.
River Murray Channel	• Evaluation (in a desktop study) of the ecological benefits associated with weir pool raising at Locks 1, 4, 5, and 6. • Development of an hydraulic model of the Hume to Yarrawonga reach and evaluation of the inundation area on adjacent properties, at river flows up to 50 000 ML per day, to assist with the investigation of possible environmental flow easements.
Complementary investigations and actions	• Development of salinity assessment methodologies for EWMP projects and proposed revision of the Basin Salinity Management Strategy operational protocols for environmental flows.

Design and construction of works under the Environmental Works and Measures Program

In 2005–06, design and construction works occurred at Gunbower–Koondrook–Perricoota Forest, Chowilla Floodplain and Lindsay and Wallpolla islands, the Lower Lakes, Coorong and the Murray Mouth, and River Murray Channel icon sites.

By June 2006, $5.3 million had been expended on design and construction works from a total budget of $12.2 million.

Gunbower–Koondrook–Perricoota Forest

- Completion of the construction works for Stage 1 of the Gunbower Environmental Flow Management project, including construction of the Little Gunbower Creek and Barham Cut regulators, refurbishment of the Shillinglaws regulator and removal of Wattles regulator.

Chowilla Floodplain, Lindsay and Wallpolla islands

- Start of construction for Stage 1 of the Improved Flow Management of the Lindsay–Wallpolla System project, including the construction of regulators for Horseshoe and Webster's Lagoons.
- Purchase of four mobile pumps, pipework and the associated infrastructure to pump water onto sites on the Chowilla Floodplain to maintain and enhance the health of River red gum, Black box and other vegetation communities at areas of significant conservation value.
- Construction of the trial production bore, underground pipeline, power line and switchboard at the Bookpurnong floodplain to induce movement of freshwater from the Murray River onto the floodplain by intercepting the saline groundwater with a production bore and disposing of saline water through the Bookpurnong Salt Interception Scheme.

Murray Mouth, Coorong and Lower Lakes

- Completion of 24 remotely controlled gates on the barrages to provide greater operational flexibility and control of water movement and fish passage between the Lower Lakes and the Coorong estuary.
- Evaluation of, and modification to, the rock ramp fishway for small fish passage on the Tauwitchere Barrage.
- Completion of the vertical slot fishway at Goolwa Barrage.

River Murray Channel

- Approval to implement the resnagging program to provide fish habitat at three key sites in the Hume to Yarrawonga Reach, and collection of suitable River red gums from the Albury Bypass highway project and other projects.
- Construction of a new fishway at Lock 10.
- Construction of the Packer's Crossing regulator on the Great Darling Anabranch to allow delivery of up to 2000 ML per day of environmental flow through the Anabranch to the Murray River.

Construction of Little Gunbower Regulator – Gunbower Forest

(Photo: P. Eggleston)

A fresh perspective on river health

With support from the Murray-Darling Basin Commission and state and regional agencies, the Murray-Darling Association initiated a program of youth forums in April 2006 to raise awareness of The Living Murray and related issues. Focusing on the theme 'The River Murray Cannot Fix Itself', forums targeting year 11 and 12 students were held in Swan Hill and Cohuna.

Students were encouraged to consider what the Murray River means to them and to propose solutions for improving the health of their stretch of the River. The students demonstrated a high level of awareness and appreciation of the River and were able to offer a fresh perspective on how to address river health at a local level.

(Photo: Sandra Watts)

Cohuna Secondary College students celebrate their local Living Murray icon site – Gunbower Forest

Ideas from students included seeking farmer advice on improving irrigation plans, placing more snags in the river, adding finer filters to pollutant traps and holding local environment days.

Both youth forums involved local Indigenous representatives, who shared their knowledge and perspective on the value of the River, including Gunbower Forest's role in the past as a sustainable 'supermarket' for Indigenous people.

Students also considered what they could do locally to raise awareness of how important a healthy Murray River is to the local community. Cohuna Secondary College students have produced a series of posters and brochures that focus on their local Living Murray icon site, Gunbower Forest, and are planning to hold a local environment day.

Further youth forums are planned for 2006–07, both along the Murray River and within metropolitan areas.

Strategy 1.2

Improve management of, and compliance with, the Cap on water diversions

Monitoring and reporting of water usage under the Cap

Addressing the balance between environmental and consumptive uses

The MDBC has taken a range of measures to preserve the existing balance between consumptive and environmental use of water resources in the Basin. The aim is to promote the health of the river system and enhance the efficiency of water use. These measures include introduction of the Cap, The Living Murray, the Sustainable Rivers Audit (SRA) and permanent interstate water trading. In 1995 the Ministerial Council decided to limit diversions in the Murray-Darling Basin (see box). This decision, now called 'the Cap', was one of the most important initiatives ever undertaken by Council.

What is the Cap?

The Cap is the balance struck by the Ministerial Council between the significant economic and social benefits that have been obtained from the development of the Basin's water resources on the one hand, and the environmental uses of water in the Basin rivers, on the other.

By limiting future growth in consumptive water use, the Cap promotes the sustainable use of the Basin's resources by:

- preserving the existing security of supply for irrigators and communities
- helping maintain water quality
- encouraging the efficient use of water, which reduces waterlogging and land salinisation
- preventing further deterioration of the flow regime for the environment

In most of the Basin, the Cap will limit future water use to the volume of water that would have been diverted under 1993–94 levels of development. Long term caps for each state are approved by the Ministerial Council. Once targets are set, each state is responsible for implementation within its own jurisdiction, allowing them to take account of local circumstances.

The Cap has been formalised in the form of Schedule F to the Murray-Darling Basin Agreement, adopted by the Ministerial Council in August 2000. The management units for the Cap are designated river valleys defined in Schedule F.

The implementation of the Cap within a state or territory is the responsibility of the relevant government. The Commission is responsible for auditing and reporting the compliance with the Cap.

In each state the key tasks are:

- defining and monitoring all diversions
- developing and calibrating the computer models that will be used to calculate the Cap target in each river valley at the end of each season
- adjusting water allocation rules to ensure that diversions stay within the Cap in all designated river valleys
- reporting to the Commission each year for each designated valley, water entitlements, announced allocations, annual diversion targets, annual diversions and water trade.

At the Commission level, the tasks are:

- auditing of compliance with the Cap by the Independent Audit Group
- maintaining the Cap Register, which provides details for every designated Cap valley and (for every reporting year since 1997–98) the annual Cap adjustments for trade, trade-adjusted annual Cap targets, annual diversions, annual Cap credits and cumulative Cap credits
- preparing and publishing the Water Audit Monitoring Report using information provided by the states.

The Water Audit Monitoring Report is produced each year as a requirement of Schedule F. While the focus of the Independent Audit Group Report is Cap compliance and the activities related to it, the Water Audit Monitoring Report provides a broader picture of Cap compliance, water use, the accuracy of water use figures, a climatic overview for the water year, water availability through allocations, off-allocations and water trading, storages losses and groundwater use.

Audit of Cap implementation 2004–05

As directed by the Ministerial Council, the Independent Audit Group (IAG) conducted the annual review of Cap implementation 2004–05 in October 2005 and reported to the Commission in March 2006. A summary of the IAG conclusions is given in the following box.

South Australia

- Diversions in all Cap valleys were within the annual limits set by the Cap.

Victoria

- Diversions in all Cap valleys were within annual bounds for Cap management.

New South Wales

- Diversions in the combined Barwon–Darling/Lower Darling valley continued to exceed Cap estimates.
- An assessment of Cap compliance for the New South Wales Border Rivers was not possible because the Cap had not been defined in that valley. The IAG has recommended that the Cap for the valley be finalised as a matter of priority.
- Diversions were within annual bounds for Cap management in the remainder of New South Wales.

Queensland

- Resource Operations Plans for the Warrego, Paroo, Moonie, Bulloo and Nebine catchments were gazetted by Queensland in January 2006. This has paved the way for Caps to be determined for these valleys.
- Draft Resource Operations Plans for the Border Rivers and Condamine–Balonne are expected to be released by the end of October 2006 and December 2006 respectively.
- Finalisation of the Border Rivers Resource Operations Plan is dependent on the outcome of negotiations under the Inter-Governmental Agreement between Queensland and New South Wales, and these should be finalised expeditiously to enable Caps to be established for both the Queensland and New South Wales Border Rivers.

Australian Capital Territory

- The IAG has recommended that the Australian Capital Territory finalise its Cap as a matter of priority.

The IAG conducted a Special Audit of the combined Barwon–Darling/Lower Darling valley of New South Wales in February 2006 and determined that diversions in these valleys continue to exceed the long-term Cap. Based upon the determination by the IAG, the Commission declared the combined Barwon–Darling/Lower Darling valley in continued breach of the Cap in March 2006. As a consequence, New South Wales reported to the Ministerial Council Meeting in May 2006 the reasons for the excessive diversions in the valley, the management actions proposed and the time it will take to bring the diversion within the Cap limits.

Cap monitoring enhancement projects

To respond to the recommendations of the Audit of the Murray-Darling Basin Cap Data Management System 2005, the Commission completed two projects.

Bulk off-take registry project

A registry has been built of all diversions and returns that record flow of volume greater than 5 GL per annum in the Murray-Darling Basin. The registry contains information about structures and measurement devices, including their location, average volume of diversion or return, an estimate of their current accuracy both in absolute (ML) and relative (as per cent of volume diverted) terms.

The project report is under consideration and it is expected that improvement works may have to be undertaken at some diversion or return locations. Further monitoring may be necessary at others before a decision is made on remedial measures. The data collected as part of the project are proposed to be made available to the National Water Initiative's Metering and Measuring Project.

Floodplain harvesting project

A status report on floodplain harvesting has been prepared. The report reviewed the system of management of floodplain harvesting in New South Wales and Queensland. It included a review of policies and processes governing the estimation, monitoring and reporting of floodplain harvesting, and recommended ways of improving them. Actions appropriate to the monitoring of improved floodplain diversions will be taken after consideration of the project report.

Developing and accrediting Cap models for Basin rivers

Cap models

Cap models are tools for the assessment of compliance with the Cap. Schedule F to the Murray-Darling Basin Agreement requires analytical models to be developed by the governments of New South Wales, Victoria and Queensland for determining

the annual Cap diversion target for each designated river valley within their territory. However, Schedule F also requires that before a model can be used to determine an annual Cap target, it must be approved by the Commission. The Independent Audit Group (IAG) has recommended that an independent audit of Cap models be carried out to determine if they are suitable for approval by the Commission. So the Commission has appointed an independent technical auditor to audit Cap models.

Cap model accreditation

Out of 22 Cap valleys in Schedule F, the Cap has not been defined for seven valleys (five in Queensland and two in New South Wales). South Australia does not intend to use Cap models for three out of its four Cap valleys. Out of 12 Cap models that need to be audited and approved, three have been audited and approved by the Commission. During the year, the Independent Auditor conducted the technical audit of four Cap models, two each from Victoria and New South Wales, as a part of accreditation of Cap models by the Commission. One more Cap model is ready for audit and three more are near completion. Thus for valleys where Caps are defined, only one remains where a Cap model is not close to being ready for audit.

Under vine irrigation in the Riverina, NSW

(Photo: Arthur Mostead)

Strategy 1.3

Coordinate the implementation of the Basin Salinity Management Strategy

The Basin Salinity Management Strategy 2001–2015 provides a comprehensive approach to addressing one of the most challenging environmental and economic issues facing the Basin. River salinity targets have been established for each tributary valley and for the Basin as a whole (Morgan Target). This approach reflects the shared responsibility for action between the partner governments and the valley communities. It provides a stable and accountable framework for the partners' joint efforts to manage salinity.

Achievements 2005–06

- Recorded salinity levels at Morgan in South Australia remained low at a median of 333 EC for 2005–06
- Victorian end-of-valley salinity targets set for each tributary valley so that all major Basin states now have salinity targets for their rivers
- Progress towards improving management of, and information supporting, the Salinity Registers
- Approval for public release of the BSMS Annual Implementation Report, its Summary Brochure and the Report of the Independent Audit Group for Salinity
- Establishment of TLM/BSMS Coordinating Task Force to progress the development of accounting and assessment frameworks that consider the environment, water and salt effects of actions implemented by both programs.

The Independent Audit Group for Salinity undertook its third audit during November 2005. It identified significant progress in:

- investment planning by regional groups using National Action Plan and Natural Heritage Trust funding
- the capacity of groundwater and salinity risk assessment models to evaluate salinity risks associated with current and potential land and water management actions
- tracking water trade
- development and refinement of irrigation impact zoning systems in Victoria and South Australia
- the information management system that underpins the Salinity Registers.

The auditors expressed concern with monitoring of flow and salinity data, the analytical frameworks to be used in evaluating catchment Programs of Action, the provision of information for the Salinity Registers, the estimates used for irrigated root zone drainage, and the need for modelling to be consistent.

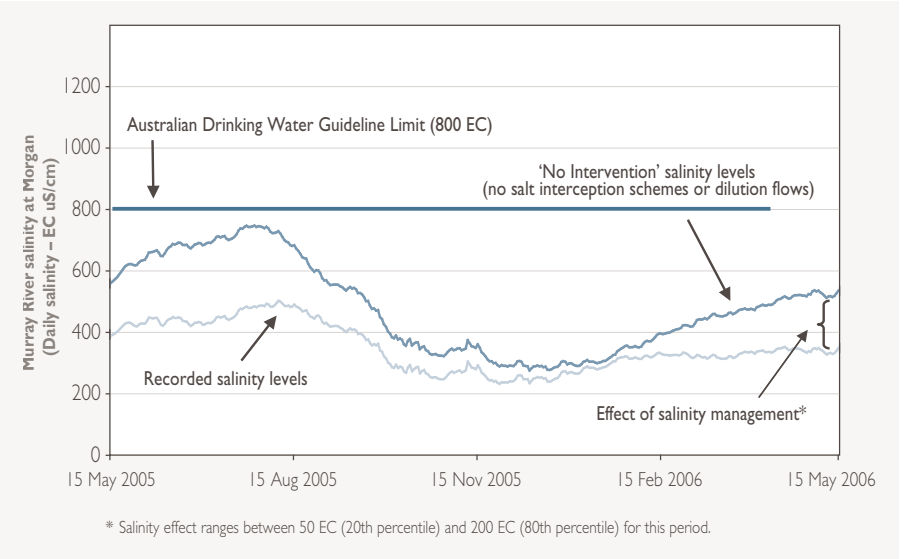
Basin Salinity Target

Actual salinity levels in the Murray River continued to be generally low during 2005–06, with a median level of 333 EC. The levels were well below the Basin Salinity Target (that is, less than 800 EC for 95 per cent of the time at Morgan in South Australia). This was due to a number of factors including reduction in salt load to the River as a result of salt interception and improved irrigation practices, a high proportion of flows sourced from the less saline Hume and Dartmouth storages, and lower groundwater levels in the Riverine plains. Continued dry conditions have led to a lower watertable and reduced run-off in irrigation areas. In turn, this has meant reduced salt discharge into drains and thus to the River system. The most immediate concern is accumulation of salt in the Lower Lakes and the floodplains of the lower reaches of the River.

Salt pile, Pyramid Creek salt interception scheme launch, 20 April 2006

(Photo: Goulburn-Murray Water)

Figure 3 The effect of salinity management in the Murray-Darling Basin Daily Salinity Levels – mid May 2005 to mid May 2006



* Salinity effect ranges between 50 EC (20th percentile) and 200 EC (80th percentile) for this period.

Commission Salinity Registers

The Commission's Salinity Registers generate a consistent currency to manage Basin-wide accountability for salinity. They are the primary record of partner government accountability for salinity debits and credits.

Register A lists salinity credits and debits for actions that have occurred after the base date (1 January 2000 for Queensland and 1 January 1988 for New South Wales, South Australia and Victoria) including their salinity (EC) effect at Morgan and salinity damage cost to downstream water users.

Register B records debits for actions that occurred before the baseline date ('legacy of history'), their EC effect at Morgan, and their salinity damage cost. It also records credits for actions taken after the baseline date that will offset these impacts.

A summary of the Commission Salinity Registers is presented in Table 1.

Table 1 Summary of Commission Salinity Registers A & B (in equivalent EC units) for 2004–05 as of 30 November 2005

Disclaimer

* The Registers generate a consistent currency through which trade-offs and Basin-wide accountability can be managed transparently (Basin Salinity Management Strategy 2001–15).
* Following the November 2005 Audit of the Salinity Registers, the IAG-Salinity has concluded that as of 30 November 2005, neither Register A nor B can be used with confidence to make judgments on whether the Basin or a state is in overall net debit or credit (Report of the Independent Audit Group for Salinity 2004–05).
* Key improvements recommended by the Auditors, in line with Schedule C and the Operational Protocols, are currently being made.
* The Salinity Registers used in this report are therefore interim, and will be reviewed by the Commission in light of jurisdictional concerns regarding application of the new cost functions, risk assignment approaches and appropriate processes to amend the Registers.

Actions	NSW	Vic	SA	Qld	ACT	Transfers to Register B	River	Total	Commonwealth contribution
SDS Joint Schemes	16.8	16.8	0.0	0.0	0.0	0.0	55.9	89.4	22.4
BSMS Joint Schemes	2.2	2.2	2.2	0.0	0.0	6.7	0.0	13.2	3.3
State Actions	0.0	-5.0‡	6.7	tbd	tbd	0.0	2.0	2.6	6.5
Total Register A	18.9	13.9	8.9	0.0	0.0	6.7	57.9	106.3	32.1
Total Register B	-11.0	-13.3	2.2	0.0	0.0	0.0	0.0	-22.1	0.0
Balance	**7.9**	**0.7**	**11.1**	**0.0**	**0.0**	**6.7**	**57.9**	**84.2**	**32.1**

† Numbers rounded to 1 decimal place

‡ Black numbers indicate a credit entry. Negative red numbers indicate a debit entry

Improving Basin-wide knowledge

Implementation of the Basin Salinity Management Strategy (BSMS) during 2005–06 has included activities in a range of areas:

- *Communications:* Guided by the BSMS Communications Plan, a network of partner agency communicators has been established to promote and coordinate salinity information and knowledge of BSMS implementation activities. A range of broader reports and background documents is being developed for both technical and community audiences. The group is establishing links with regional management authorities and will be part of mid-term review activities.
- *Operational Protocols:* A revised set of protocols has been developed and put in place to provide operational detail and consistency where necessary to give practical form to the principles and accountabilities that drive implementation of the BSMS. The

protocols are designed to clarify and implement the provisions of Schedule C to the Murray-Darling Basin Agreement in a practical and consistent manner and respect the rights and powers of the partner governments.

- *Reviews:* The BSMS requires regular review of each of the Basin's valleys and Commission and state entries to the Salinity Registers. The reviews consider the effect of actions on each end-of-valley target and for river salinity at Morgan. In 2005–06, reviews were completed for Queensland's Border Rivers and are close to finalisation for the tri-state Mallee Zone, upland catchments in New South Wales, and the Barr Creek Catchment Management Strategy, Shepparton Irrigation Region and Tragowel Plains Land and Water Management Plan, all in Victoria. Reviews have been initiated for the Warrego–Paroo system in Queensland.
- *Future salinity management options:* Work has been undertaken to consider options for the management of salinity into the future. While salt interception schemes have substantially mitigated salinity impact, future salinity management is looking to dilution flows, management of evaporation basins, and broader environmental benefits. As existing knowledge of salt management is improved, the options for future management are enhanced.
- *Mid-term review:* The Strategy requires a mid-term review to be completed by December 2007; preparations for the review are already under way.

Salt interception schemes

The MDBC operates eight jointly funded salt interception schemes (SIS) along the Murray River, from Waikerie in South Australia to Pyramid Creek in Victoria. These

Buronga Salt Interception Scheme outlet to Mourquong Basin

(Photo: Lowrie Kirk)

schemes intercept saline groundwater flows and saline surface drainage that would have otherwise entered the River.

The efficiency and capacity of these schemes are constantly monitored to ensure that their performance can be optimised to deliver agreed salinity benefits. Key activities undertaken in 2005–06 are outlined below for each operational scheme.

Barr Creek Drainage Disposal Scheme (Victoria)

The Barr Creek Drainage Diversion Scheme has once again been effective in reducing base salt loads in the Murray River by diverting drainage flows and intercepting saline groundwater from the Barr Creek to the Tutchewop disposal basins. During the year the scheme operated according to the agreed rules and diverted approximately 11 078 ML of drainage water, containing approximately 54 112 tonnes of salt, to the disposal basins. This represents approximately 96 per cent of the flow and salt load in the Barr Creek catchment that would otherwise have reached the Murray River.

Mildura–Merbein Salt Interception Scheme (Victoria)

The scheme, built in the 1970s, continues to operate at approximately 60 to 70 per cent of its design effectiveness due to a number of ongoing systemic problems with the original design and the operating environment. Five of the bores have been inoperable over the past year and diversions from the floodplain-based Lake Ranfurly basin to the Wargan basin have been kept to 136 ML due to the ongoing dry conditions.

Mallee Cliffs Salt Interception Scheme (New South Wales)

The Mallee Cliffs SIS performance during the course of the year has been highly effective. The scheme operates according to the agreed rules and intercepts approximately 2500 ML of saline groundwater, containing approximately 84 000 tonnes of salt, and delivers it to the disposal basins.

Buronga Salt Interception Scheme (New South Wales)

The scheme has operated in accordance with the agreed operating rules and its performance has been excellent. During the year approximately 3000 ML of saline water, containing approximately 86 000 tonnes of salt, was intercepted and delivered to the Mourquong Disposal Basin.

Woolpunda Salt Interception Scheme (South Australia)

In general, the Woolpunda scheme has continued to meet its design targets, with ongoing fine tuning of pumping rates to meet groundwater level targets and maximisation of off-peak power use.

With the scheme now over sixteen years old, there are increasing challenges to keep maintenance costs down as age-related deterioration of some assets increases and bore performance starts to reduce. It is expected that a bore rehabilitation program will be implemented in 2006–07 to counter the clogging effects of iron bacteria.

Waikerie Salt Interception Scheme (South Australia)

The Waikerie scheme continues to operate effectively, with further optimisation initiatives to be implemented in 2006–07 that will reduce pumping rates without compromising the effectiveness of the scheme. A bore rehabilitation program, similar to the one in the Woolpunda scheme, to address age and corrosion, is expected to be implemented in 2006–07.

Rufus River Salt Interception Scheme (South Australia)

All four wellpoint lines have been successfully operating in accordance with the operating criteria and have generally drawn the groundwater levels down to near or below target.

New salt interception schemes

In accordance with Schedule C to the Agreement and as set out on the Basin Salinity Management Strategy Operational Protocols, a program of joint salt interception schemes (SIS) has been established to offset the predicted future increase in the average salinity at Morgan arising from the impact of past actions 'legacy of history' and accountable actions by a total of 61 EC by December 2007. These are outlined below.

Pyramid Creek Salt Interception and Harvesting Scheme (Victoria)

The period 2005–06 has seen a number of significant milestones achieved for the salt interception program. One of these was the commissioning, benefit accreditation and official opening of the Pyramid Creek scheme in April 2006. The scheme, located downstream of Kow Swamp on the Pyramid Creek, was the first of the BSMS Joint Works programs to be deemed effective, with the salinity benefits for Stage I being placed on the Commission Salinity Register.

Award for Pyramid Creek scheme

The 2006 Engineers Australia National Salinity Prize for new technology and other practical outcomes tackling salinity was awarded to Pyramid Creek Salt Interception and Harvesting Scheme by the Governor-General, Major General Michael Jeffery, AC, CVO, MC at Parliament House Canberra on 1 June 2006.

MDBC Chief Executive Wendy Craik with the Chair of Goulburn-Murray Water, Don Cummins, at the opening of Pyramid Creek, 20 April 2006

At approximately 60 kilometres long, Pyramid Creek is an enlarged natural stream in northern Victoria flowing from Kow Swamp to Kerang Weir on the Loddon River. The creek is used as a major irrigation water carrier to the Kerang and Swan Hill irrigation areas and carries over 1000 ML per day.

The $13 million salt interception scheme on the upper reaches of Pyramid Creek will lower the adjacent groundwater table, preventing about 22 000 tonnes of salt from entering the creek each year. This will result in reduced salinity in downstream waterways including the Loddon River, the Ramsar-listed Kerang Lakes and the Murray River.

Goulburn-Murray Water has overseen construction and now manages the scheme on behalf of the MDBC's partner governments, while Pyramid Salt Pty Ltd operates the commercial salt harvesting facility. Whilst delivering significant social, environmental and economic benefits, this is the first scheme specifically designed to incorporate salt harvesting to deliver a sustainable operation.

The project has addressed a number of issues ranging from design innovations for groundwater pumping to sustainable methods of salt disposal and community acceptance of salt basins. The harvesting system comprises a series of lined evaporation basins. Implementation has relied upon partnerships with traditional landowners (the Brapa Brapa people), local government and the local community.

Bookpurnong Salt Interception Scheme (South Australia)

In March 2003, Ministerial Council approved the construction of the Bookpurnong scheme as a shared scheme, that is, a combined Joint Works and State Action, as defined in Schedule C of the Agreement. The total estimated cost is $11.1 million.

It is estimated that the interception of saline groundwater will achieve a total benefit at Morgan of 21.8 EC units (14.8 EC for the Joint Works component and 7.0 EC for the State Action component).

Construction of the scheme commenced in late 2003 with the first water being pumped to the Noora Disposal Basin in July 2005. By June 2006, commissioning was substantially complete. Preliminary indications from river salinity surveys were that it had already begun to significantly reduce saline groundwater inflow in some areas.

Loxton Salt Interception Scheme (South Australia)

In March 2004, Ministerial Council approved the construction of the Loxton Scheme as a shared Joint Works and State Action scheme as defined in Schedule C of the Agreement at a total estimated cost of $24 million.

It is estimated that the interception of saline groundwater will achieve a total benefit at Morgan of 18.7 EC units (18.3 EC the Joint Works component and 0.4 EC for the State Action component).

By June 2006 the majority of the floodplain observation and production bores had been drilled, about 80 per cent of the major pipe laying for the disposal pipeline had been completed and about 35 per cent of the floodplain interception pipes had been installed. The remaining pipe laying will be completed by late 2006. The first intercepted water from the floodplain is expected to be pumped to the Noora Disposal Basin by November 2006 and all floodplain bores are expected to be operational by mid-2007.

Subject to funding, the scheme is expected to be fully commissioned by 2008–09.

Feasibility investigations

The following feasibility investigations have been highlighted for the year.

Mildura–Merbein Salt Interception Scheme (Victoria)

A detailed program of investigations into the potential full refurbishment of the existing scheme and a possible extension to intercept additional salt loads downstream of the existing works is progressing well. Concept designs for the refurbishment are scheduled for completion in the next twelve months.

Surface water monitoring program

Following a detailed review of surface water salinity monitoring within the Sunraysia region, the Steering Committee supported the installation of six new salinity measurement pontoons located to provide information on the performance of current interception schemes within the region and to assist in monitoring further interception opportunities.

Upper Darling salt interception opportunity (New South Wales)

Investigations have highlighted that there is an economic interception opportunity in the Upper Darling that would provide at least a 3.54 EC average benefit at Morgan.

A submission has now been developed and will be considered by the Technical Working Group on salt interception and the Commission early in 2006–07.

Murtho salt interception opportunity (South Australia)

Investigations have highlighted that there is an economic interception opportunity in the Murtho area, on the east bank of the Murray upstream from Renmark.

It has been estimated that on average about 129 tonnes per day of salt enters the Murray River in this reach. This could rise to as much as 471 tonnes per day by 2015. A submission is being developed to target approximately 129 tonnes per day of salt.

The Technical Working Group on salt interception and the Commission are due to consider this submission early in 2006–07.

Waikerie 2L SIS proposal (South Australia)

Investigations are currently being finalised for a Waikerie 2L salt interception scheme proposal that will present a number of interception options for the Commission to consider in 2006–07. The proposal is intended to reduce salt loads to the Murray River from the downstream end of the Waikerie IIA scheme to the downstream boundary of the area serviced by the Qualco–Sunlands Trust Groundwater Control Scheme.

Strategy 1.4
Monitor and report on River health

Sustainable Rivers Audit

The Sustainable Rivers Audit (SRA) is a river health assessment program that started in July 2004 after successful trials over the previous three years. It aims to provide consistent, Basin-wide information, on the health of the Basin's rivers in order to promote sustainable land and water management. To achieve this, the program has developed indicators and methods for river health assessment that are robust and consistent across catchments (and jurisdictions) and will be used repeatedly over time.

The first SRA Implementation Report prepared by the Independent Sustainable Rivers Audit Group was tabled at Commission Meeting 87 in March 2006 and approved for distribution to partner governments. A progress report has been approved by Ministerial Council for public release.

Sampling is complete for the second year of the three-year sampling program. Table 2 shows the valleys sampled in 2005–06.

Table 2 Valleys sampled, 2005–06

State	Valley	Sampled for
Qld	Paroo	Fish and macroinvertebrates
Qld	Warrego	Fish and macroinvertebrates
Qld	Condamine	Macroinvertebrates
NSW	Gwydir	Macroinvertebrates
NSW	Namoi	Fish
NSW	Castlereagh	Macroinvertebrates
NSW	Macquarie	Fish and macroinvertebrates
NSW	Lachlan	Fish
NSW	Central Murray	Macroinvertebrates
Vic	Upper Murray	Macroinvertebrates
Vic	Mitta Mitta	Macroinvertebrates
Vic	Kiewa	Fish
Vic	Ovens	Macroinvertebrates
Vic	Goulburn	Fish and macroinvertebrates
Vic	Loddon	Macroinvertebrates
Vic	Avoca	Fish
SA	Lower Murray	Macroinvertebrates

Anisops deanei, Back swimmer

(Photo: Karlie Hawking)

This season completes the first cycle of macroinvertebrate sampling across the Basin. The first cycle of fish sampling will be completed at the conclusion of sampling in 2006–07.

In 2006–07, the Sustainable Rivers Audit program will continue the sampling program for fish and macroinvertebrates and undertake modelling for the hydrology theme across the Basin. Implementation of quality assurance procedures and the development of approved protocols will also be a key issue for the year ahead.

New Sustainable Rivers Audit themes

The SRA program, through the partner agencies, undertakes data collection across the Basin for three indicator themes – field sampling for fish and macroinvertebrates and modelling for hydrology – and then reports using a standard set of indicators. The program has identified three indicator themes for further development – physical form, riparian vegetation and floodplain health.

The Independent Sustainable Rivers Audit Group has provided direction for the new themes during 2005–06.

Assessment frameworks for the physical form and vegetation themes have now been completed. The conceptual model for the floodplain theme has also been drafted. Elements of this model are being addressed within the physical form and vegetation themes.

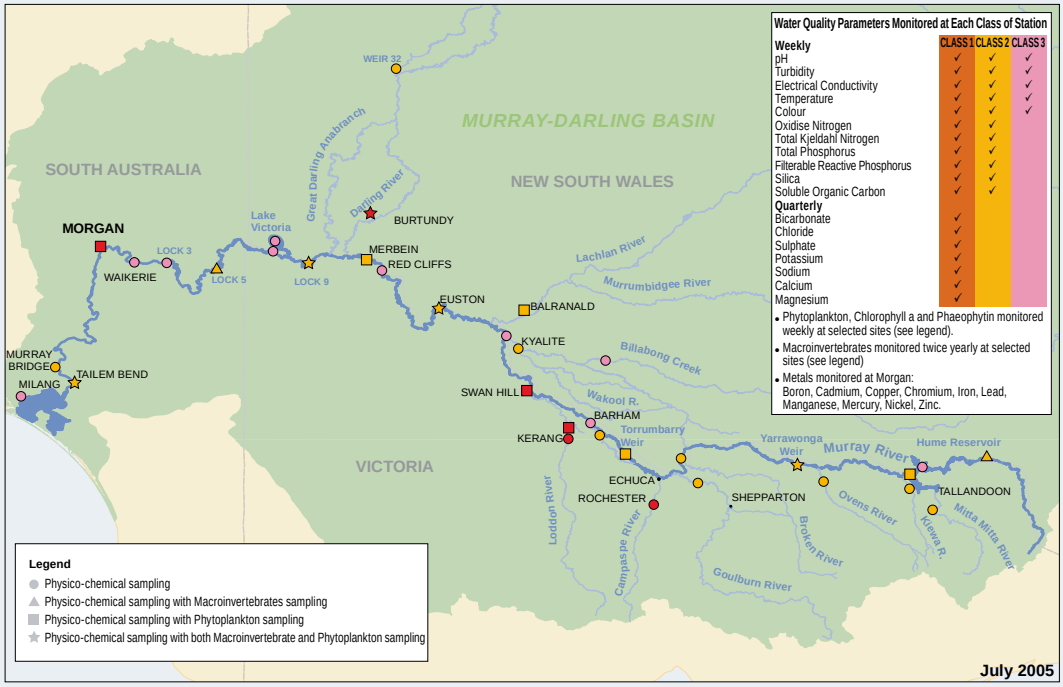
Water Quality Monitoring Program

A review of the River Murray Water Quality Monitoring Program was published and released in July 2005. The report contains a number of recommendations for various improvements to the program and for investigative studies. The revisions to the program were successfully implemented in July 2005. Figure 4 illustrates the revised program, which gives baseline information on the current status and trends in water quality in the Murray River, providing a key dataset to support research and investigations relating to the River.

Hemianax papuensis, Australian Emperor Dragonfly larva

(Photo:Karlie Hawking)

Figure 4 Revised MDBC River Murray Water Quality Monitoring Program



Two studies were commenced in the period 2005–06, including a scoping study into heavy metals in the Murray River (to be completed by the end of 2006–07). At present heavy metals are monitored by analysing a sample of water at Morgan. To better understand Murray River water quality, an investigation into heavy metals in the River began in 2005–06. To date the project has reviewed and summarised all existing information on the sources, status and trends of heavy metals in the Murray River. It has also developed a pilot study program which aims to identify the following:

- distribution of heavy metals along the river and the floodplain
- likely sources of heavy metals
- areas with potential to pose risks from heavy metals
- the heavy metal status of the Murray River system
- future requirements for monitoring heavy metals in the Murray River.

In addition to the heavy metal study, an update of trend analysis of a range of water quality parameters at selected sites is also under way.

Strategy 1.5

Develop policy options to respond to demonstrated risks of significance to shared water resources

Assessing and quantifying current risks

The 2005–06 contributions to this strategy were delivered by the Risks to Shared Water Resources Program (the Risks Program). An important aspect of the program has been the recognition that many of the activities and processes that affect water quality and quantity in the Basin are inter-related.

Two reports prepared for the Commission provide a CSIRO perspective on a more systems-based approach to dealing with activities and processes affecting shared water resources. The first report of the two-part series outlines the hydrology and key water resource strategies of the Murray-Darling Basin. The second examines the nature and extent of each *risk*, and suggests further work required to improve our understanding and management of the impacts.

A suite of projects was commissioned in 2005 to improve understanding of processes associated with groundwater, including:

- a description of the required improvements to groundwater reporting processes and systems across the Basin, making them more consistent and accessible
- an evaluation of the connectivity between surface and groundwater in the Murray-Darling Basin. The project will provide a comprehensive and technically rigorous overview of the current understanding, key uncertainties and knowledge gaps in relation to groundwater and surface water interactions across the Basin. The project will focus on key priority areas for the shared water resources of the Basin

Ongoing assessment of the implications of groundwater use on government strategies and initiatives requires regular reporting of the status of groundwater across the Basin. The Groundwater Status Report, published in 2004, provides an update on the first Basin-wide assessment of groundwater status, trend and condition.

The MDBC is the managing agency for a 3-year and $7 million South Eastern Australian Climate Initiative, a major collaborative joint venture aimed at improving understanding of climate change and improving climate forecasting methods. Research results, which will start to emerge in 2006–07, will lead to increased reliability in forecasting and inform managers' decisions. The joint venture is being funded by the Commission, the Victorian Department of Sustainability and Environment, the Australian Greenhouse Office and the Managing Climate Variability Program of Land & Water Australia, and involves research conducted by CSIRO and the Australian Bureau of Meteorology.

Identifying and assessing further risks

The Risks Program has developed a strategic framework to assess and develop responses to existing risks and to identify new and emerging risks to the shared water resources. A consultative approach with the partner governments is being taken through the current committee structure.

Tools developed within the risks management framework will also prioritise new and emerging risks for action.

Developing policy options

The Risks Program has commissioned a comprehensive overview of the current statutory and administrative arrangements within each jurisdiction of the Murray-Darling Basin relevant to identifying and addressing the risks to the shared water resources of the Basin and arrangements under the MDB Agreement as they relate to the identified risks. This will provide a common knowledge base, from which policy options can be developed through a consultative process involving all jurisdictions to inform discussion of the effectiveness and limitations of existing regimes.

The jurisdictions have provided guidance through the NRM Committee process on development of a framework for addressing activities and processes that pose a risk to the shared water resources in the Basin. The NRM Committee is also considering policy approaches for addressing the impact of groundwater extraction on stream flow groundwater.

The agreed key elements of a framework for these risks that will be progressed in 2006–07 include:

- a risk assessment of all activities and processes that may pose a risk to shared water resources
- a more quantitative assessment (integrated modelling) of the cumulative impact of those activities and processes that do pose a risk to shared water resources
- identification of responsibilities for responding to the risks while recognising and building on existing jurisdictional arrangements and Murray-Darling Basin and National Water Initiative (NWI) strategies
- a reporting, monitoring and evaluation framework (including independent auditing)
- a research and information needs plan and a communication plan.

Northern Basin activities

The Darling Basin covers an area of 699 500 square kilometres (close to 70 per cent of the area of the Murray-Darling Basin). The Darling River and its main tributaries drain the western margins of the Great Dividing Range in southern Queensland and northern New South Wales. Other tributaries, notably the Warrego and Paroo rivers, have their headwaters in the more arid interior and are intermittent contributors to total Darling River flows, only providing significant run-off during intense rainfall events.

The Darling River joins the Murray River at Wentworth, 100 kilometres east of the South Australian border. On an average annual long-term basis, the Darling River contributes 17 per cent of the flows to the Murray River (based on flow data from 1891 to 2000 assuming current levels of development). However, the Darling Basin is typified by high variability in water flow. Flow events are generated primarily by summer rainfall (although floods may occur at other times of the year). Rainfall varies markedly over time, with droughts and floods occurring periodically. At certain times the flows from the Darling may account for over half the flow of the Murray River into South Australia and at other times there is very little flow from the Darling.

Many of the Murray-Darling Basin Commission's strategies cover some work undertaken within the Darling Basin. The Commission has initiated studies specific to the Darling Basin to better support the implementation of MDBC strategies and to support other jurisdictional work in the Darling. The largest of these is the Narran Lakes Integrated Research Project. Part of the Narran Lakes system is Ramsar-listed for its vegetation and its importance as a bird breeding site. The Narran Lakes project is improving our understanding of wetland and floodplain ecosystem processes in highly variable environments and will be of relevance to wetlands and floodplains throughout the Darling.

In 2005–06 the Commission also commenced a research project which aims to compile a Darling-wide picture of water and its economic, social, environmental and cultural implications. This scoping study will provide information to guide the Commission's future work in the Darling Basin.

Advising on the impact of floodplain development

The MDBC receives a number of statutory referrals for consideration. All contracting governments must, under Clause 46 of the *Agreement*, ensure the MDBC is informed of significant proposals that may affect the flow, use, control or quality of the Murray River. The NSW *Murray Regional Environmental Plan No 2* (REP2), as a statutory document, requires all planning and development proposals located on the Murray River floodplain as defined by REP2 to be referred to the MDBC. In total the Commission assessed 117 referrals. Of these, 114 were from New South Wales, including referrals under REP2; there were three referrals from Victoria and South Australia.

The *Floodplain Management Strategy* approved by the Ministerial Council in August 2002 contains a number of recommendations regarding the MDBC's role in floodplain planning, which include assessment of significant floodplain development proposals, as well as monitoring of the cumulative impact of developments on the floodplain. This work will be progressed as funds become available.

Strategy 1.6
Coordinate the implementation of the Native Fish Strategy

Sea to Hume fishways program

The Sea to Hume fishways program, which began in 2001, is a multi-state process involving engineers and fish biologists in the design, construction, testing and evaluation of fishways at the major weirs and barrages along the main stem of the River. A tri-state fishway assessment team, comprising representatives from New South Wales (DPI), Victoria (DSE) and South Australia (SARDI) undertakes baseline monitoring and technical support for program (under The Living Murray Environmental Works and Measures Program).

During 2005–06, the tri-state team undertook monitoring of fish communities below Locks 1, 2 and 3 as part of a long-term program to investigate the effect of fishway construction on current fish populations. The fishways at Lock 9 and the barrages were monitored to evaluate fish passage efficiency, and intensive PIT (Passive Integrated Transponder) tagging of fish was undertaken below Locks 7, 8 and 9.

Members of the Narran Lakes Science Team collecting soil samples as part of the Narran Lakes Integrated Research Project.

(Photo: Arthur Mostead)

Monitoring of fish passage at Locks and Weirs 7, 8, and 9 is already showing encouraging signs, with target species and size of fish achieving passage. An unforeseen benefit has been the discovery that some species, not previously thought to be migratory, are using or attempting to use the fishway. There has also been a marked decrease in bird numbers at the three locks now fitted with effective fishways, indicating that fish may no longer be accumulating downstream of these barriers.

PIT tag readers have now been installed at the entrance and exit of all completed fishways to record the passage of tagged fish, with this information being automatically recorded and sent to the tri-state team for assessment. A number of experiments were undertaken, including:

- investigation of entrance width to improve the efficiency of large fish passage
- using the existing vertical slot fishway design as a lock to provide passage of small fish and crustaceans
- testing of modified vertical slot fishway design to reduce construction costs.

Design and construction of fishways

During 2005–06, the Sea to Hume fishways program completed the concept design for the Lock 3 fishway, detailed design at Lock 1, and construction of the Lock 10 fishway. In addition, trials were carried out to study the performance of variations to the vertical slot fishway design with a view to reducing construction costs while maintaining a similar standard of fish passage. Modification and testing were undertaken at the barrage rock-ramp fishway to provide more effective passage of small fish.

Carp management

The MDBC provided over $1 million in 2005–06 to the new Invasive Animals CRC for continuation of a major program aimed at the long-term control of carp. Projects under this initiative include:

- the development of 'daughterless carp' technology
- identification of 'hot spots' of carp reproduction in the Basin
- modelling carp movement and migration
- the potential of herpes virus as a biological control agent for carp in Australia
- a review and development of a carp-specific biocides and biocide delivery options
- a national rapid response plan for new incursions of alien freshwater fish.

In addition, support was provided for the design and construction of an automated version of the award-winning 'Williams carp separation cage', which will be installed in the new fishways.

The Native Fish Strategy also commissioned a review of the series of regional carp workshops that have been conducted over the last five years to facilitate on-ground management of this alien species at the catchment scale.

Native Fish Strategy

In May 2004 the Chairman of the Murray-Darling Basin Ministerial Council released the Native Fish Strategy (NFS). This Strategy is designed to ensure that the Basin sustains viable native fish populations throughout its rivers.

During 2005–06 significant activities have included:

- completion of fishways at Locks 9 and 10 (see page 68)
- initiation of demonstration reaches in Queensland, New South Wales and South Australia
- workshops on demonstration reaches (April) and alien species (May)
- the inaugural NFS Forum (June), which provided a vehicle for scientists and the community to share new knowledge that has been generated in the first two years of the Native Fish Strategy
- development of a number of projects that will answer questions such as:
  - how do managed flows affect fish recruitment?
  - can we tell the difference between stocked and wild fish?
  - what impacts do irrigation offtakes have on native fish?

Lock 10 fishway, under construction, May 2006

(Photo: Robert Alaia)

- how far do small species of native fish move?
- how do native fish use the Barmah–Millewa Forest?
- what conclusions can we make about distribution and abundance of native fish populations in the last few decades?
- what is the significance of Murray cod to Indigenous people?
- what is the importance of anabranches to Murray cod?
- how can we separate carp from native fish in fishways? (See also page 43.)

Community consultation has included:

- the Native Fish Strategy Tour 2006 – a week-long tour of sections of the Murrumbidgee, Murray and Broken rivers involving public meetings, school presentations, discussions with CMAs, Local Government and Indigenous groups
- meetings of the Native Fish Strategy's Community Stakeholder Taskforce held at Mildura and Murray Bridge
- a visit to Paiwalla wetland to discuss wetland rehabilitation for native fish involving members of the Wetlands Habitats Association, the Mannum to Wellington Local Action Planning Group, Greening Australia and the NFS Community Stakeholder Taskforce
- production of educational material concerning:
  - the importance of structural woody habitat (snags) for fish
  - modern methods of tracking fish movements
  - alien fish species and their management in the Basin
  - the role of wetlands in the ecology and management of native fish.

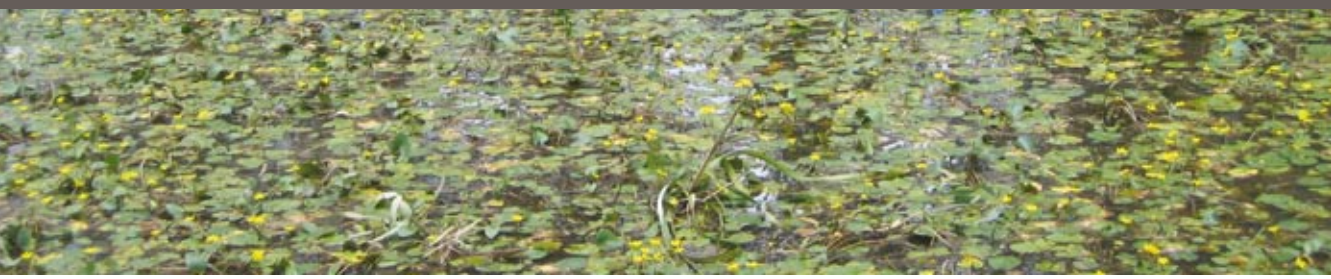
The 2005–06 NFS Annual Implementation report provides a synopsis on work in each of the six key driving areas of the Strategy:

- rehabilitating fish habitat
- protecting fish habitat
- managing fish translocation and stocking
- protecting threatened species
- controlling alien fish species
- managing riverine structures.

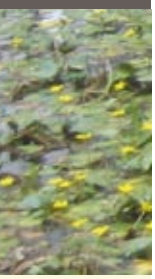
This year's report continues to track the progress made in each of the jurisdictions in regard to native fish management, as well as that made by the Commission itself.

Hattah Lakes, an icon site

(Photo: Tones Photography)



Part 2: Deliver water efficiently and equitably for domestic consumption, sustainable economic use and environmental benefit



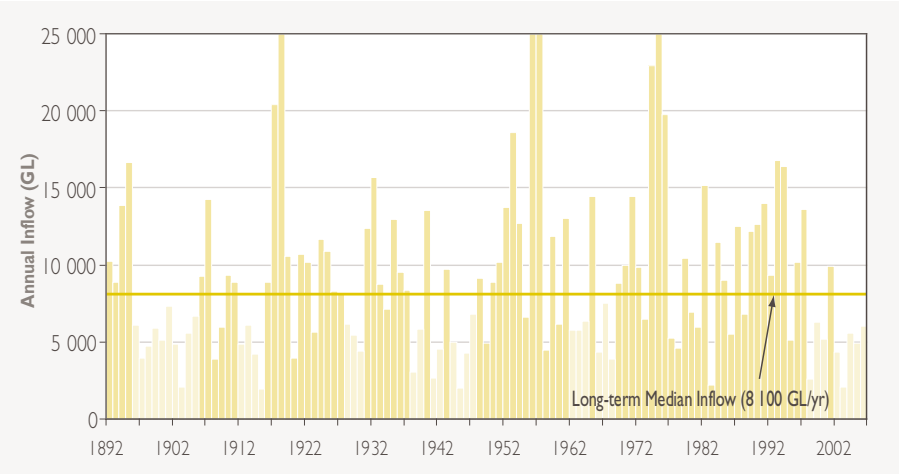
Strategy 2.1

Deliver agreed water shares in the Murray River to the states

Water availability

2005–06 saw a limited improvement in water availability, albeit a continuation of the below-average system inflows that have been observed each year since 2002–03. The limited resource availability presented another demanding year of operations for the River Murray Water Production team in meeting consumptive and environmental water requirements in the Murray River system.

Figure 5 **Murray River system inflows with extended drought periods highlighted**



The volume of water in active storage under control of the Commission at the start of 2005–06 was 2800 GL, 550 GL greater than at the start of 2004–05 but 2300 GL below the long-term average. MDBC active storage at the end of 2005–06 was 3370 GL, some 570 GL higher than at the start of the season.

Rainfall from July 2005 to June 2006 was average to slightly above average in the western part of the Basin. However, Murray River inflows for the year totalled about 6200 GL (not including Snowy releases), which is 1900 GL below the median (8100 GL). The total system inflow for the five years from July 2000 to June 2006 has been the lowest on record.

Inflows in September from the Ovens and Kiewa rivers combined to produce flows above channel capacity through the Barmah Choke. As a result of this event, the NSW and Victorian governments agreed to commence releases from the Barmah–Millewa

Forest Environmental Water Account in early October to maintain the above-capacity flows. The releases for the forest continued until early March 2006 and totalled 513 GL. If these releases had not been made, the Hume Dam would have spilled in November 2005.

Over the Christmas – New Year period demand across the system was very high, following a sustained period of extremely high temperatures. The January 2006 average maximum temperature was 5 degrees above the historical January maximum across the basin. The implications of this for the water delivery system are discussed below (see page 55).

The states' shares of water held in Commission storages at the beginning and end of 2005–06 are shown in Table 3.

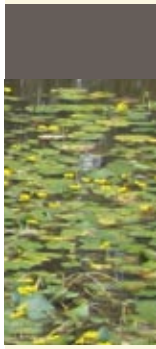


Table 3 Water accounts for New South Wales and Victoria 2005–06 (GL)

Storage location	Storage at 30 June 2005				Storage at 30 June 2006			
	NSW	Vic	Total	Out of balance	NSW	Vic	Total	Out of balance
Dartmouth Reservoir	532	1216	1748	684	864	1661	2525	797
Hume Reservoir	457	457	913	0	164	475	639	311
Lake Victoria	79	266	345	187	226	186	412	-39
Menindee Lakes*	65	264	330	199	34	234	268	199
Total	1133	2203	3336	1070	1288	2556	3844	1268

*Menindee Lakes has been under NSW control since mid-March 2002, and the resource will not become available to the MDBC until the storage next exceeds 640 GL.

Notes:

Accounts are based on the best available data, which may contain some unverified operational data.

Figures are rounded to the nearest GL.

Data relate to gross storage.

The 'out of balance' figure reflects the volume of stored water accounted to Victoria, minus the volume of stored water accounted to New South Wales.

Figures may differ from those reported in 2004–05 annual report due to the substitution of verified data.

State irrigation allocations

Water resource availability for New South Wales, Victoria and South Australia in 2005–06 was again constrained by low inflows, with initial water allocation in all states at low levels. The irrigation allocations for the three states are summarised below.

Victoria

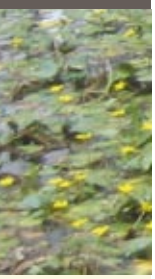
The initial level of allocation in Victoria for the Murray was 85 per cent of Water Right with Sales Allocation of zero per cent. Allocations for Water Right and Sales reached 100 and 44 per cent respectively by April 2006.

The Victorian component of the borrowing from the Barmah–Millewa account was repaid when Water Right allocation reached 100 per cent, in accordance with the Interim Barmah–Millewa Account Rules.

New South Wales

The opening irrigation allocation in 2005–06 was constrained to zero per cent for general security and 97 per cent for high security. The general security allocation increased to 63 per cent by February 2006 and high security remained at 97 per cent.

The NSW component of the borrowing from the Barmah–Millewa account was repaid when Water Right allocation reached 30 per cent in accordance with the Interim Barmah–Millewa Account Rules.



South Australia

In 2005–06 South Australia experienced its third year in a row with an opening allocation of less than 100 per cent. South Australia announced an initial allocation of 70 per cent of licensed allocation and as conditions improved Murray River water users were entitled to 100 per cent for 2005–06.

Frog habitat by Nathan Rathbone, 11, Shepparton, Victoria

State irrigation diversions

State diversions from the Murray and Lower Darling rivers are summarised in Table 4.

Table 4 Summary of state diversions (GL)

Year	Murray River*				Darling§
	NSW	Vic	SA	Total	NSW
1991–92	2431±	1827	589	4847	101
1992–93	1633	1147	482	3262	77
1993–94	1902	1407	587	3896	158
1994–95	2254	1970	663	4887	54
1995–96	1935	1740	568	4243	168
1996–97	2231	1745	600	4576	136
1997–98	1886	1696	664	4246	71
1998–99	2000	1766	690	4456	192
1999–00	1234	1522	642	3398	85
2000–01	2070	1682	662	4414	246
2001–02	2113	1884	621	4618	126
2002–03	879	1701	737	3317	107
2003–04	1312	1442	612	3366	23
2004–05	1241	1466	623	3330	29
2005–06+	1670	1670	625	3965	39

* Data based upon the official MDBC record for the reporting requirements of implementation of the 'Cap' on diversions, with the exception of data for 2005–06.

\+ Data presented for 2005–06 is estimated based on hydrographic and operational data for New South Wales and Victoria, and approximate data from the SA Department of Water, Land and Biodiversity Conservation.

± Record high diversion.

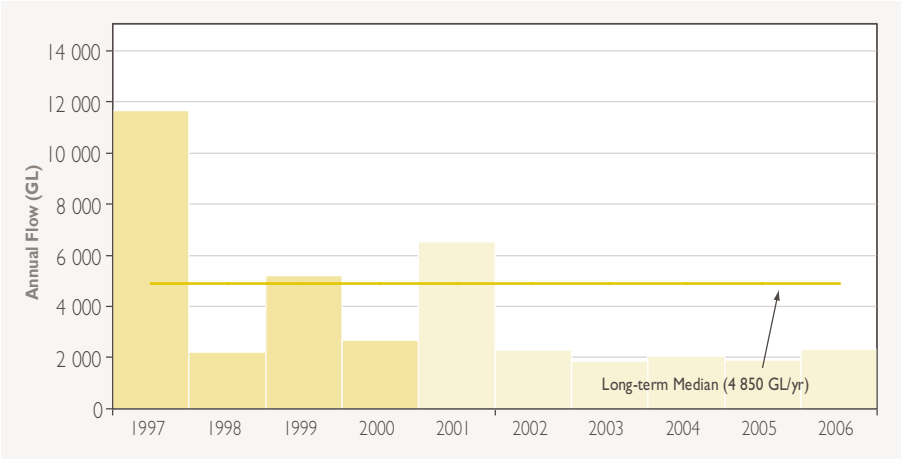
§ Includes data from Cawndilla Outlet to the Great Darling Anabranch.

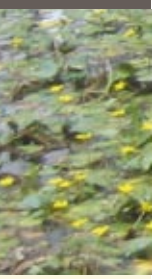
Flow to South Australia

A total of approximately 2300 GL flowed into South Australia, comprising an entitlement flow of 1850 GL, 447 GL unregulated flows and 11 GL traded water. The flow received in 2005–06 was just under 50 per cent of the median annual flow of 4800 GL but more than the 1880 GL received in 2004–05.

The total volume of flow to South Australia for the last nine years is the lowest nine-year total volume on record. South Australia has received above long-term median flows in only three of the past ten years.

Figure 6 Modified current conditions flows to South Australia, 1997–2006





During 2005–06 the Commission worked with natural resource management agencies in New South Wales, Victoria and South Australia to enhance small freshes in the River to inundate increased areas of the floodplain. The program of weir raising for environmental outcomes was far more extensive than previous exercises. In order for this to happen, prior checks on weir and riverbed conditions were made and a strict procedure for the extent and rate of raising and lowering instigated. Having these protocols in place will enable weir pool raising and lowering to become more of a routine exercise in the future.

System operation

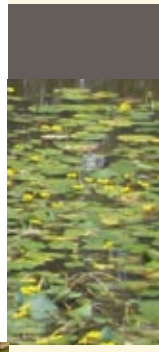
Late in the season, entitlement releases made by AGL electricity from Banimboola Power Station (the re-regulation pond downstream of Dartmouth Dam) were varied over a weekly cycle to provide improved environmental outcomes in the Mitta Mitta River.

Storage in Hume Dam peaked at 2800 GL (92 per cent of capacity) in mid November 2005. This compared with the peak of 1650 GL (54 per cent) in November 2004. The storage reached a minimum level of 380 GL in late May as result of diversions that were well above the long-term May average. The storage was at 380 GL by the end of June 2006, 530 GL less than the storage level at the end of June 2005.

Transfers from Hume Dam to Lake Victoria began in July and continued through August. Lake Victoria storage reached full capacity by mid-October. Flow forecasts for the remainder of spring 2005 were insufficient to temporarily lower Lake Victoria, as provided by the Lake Victoria Operating Strategy when there is sufficient water in transit to draw down and refill as late as possible (to reduce inundation of the foreshore vegetation required to minimise damage of cultural heritage material).

Lake Victoria remained within 10 cm of its full supply level from 2 October until 29 December, the longest period that the lake has been at capacity since its operation was altered to reflect the requirement to protect cultural heritage in 1996. Despite this, vegetation monitoring undertaken in autumn revealed that the condition of foreshore vegetation had continued to improve. High system diversions, particularly in the lower Murray, and losses in autumn saw the lake level fall rapidly to around 250 GL by the end of April. For the first time ever it was necessary to extend the release from Hume Dam to beyond the usual summer cut-off to regain an active storage of 250 GL in Lake Victoria by the end of March 2006 (350 GL total storage including dead storage volume). The lake was approximately 415 GL at the end of June 2006.

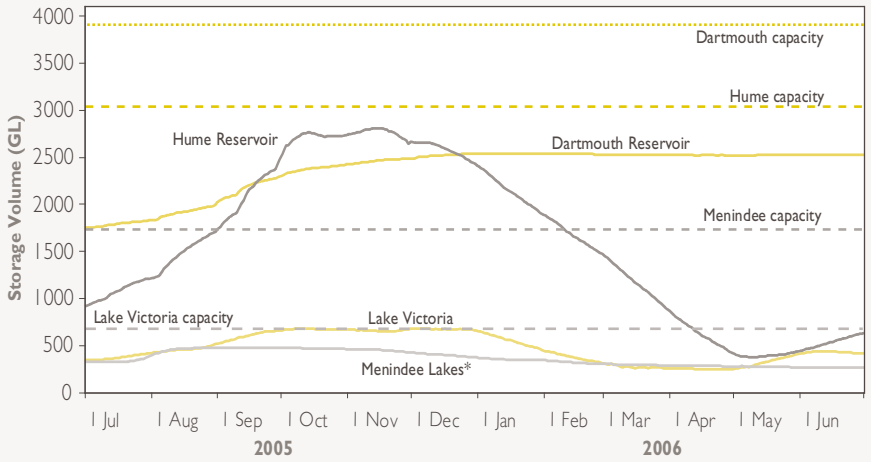
Menindee Lakes began the season at 330 GL, under NSW control in accordance with the Cap agreement. Increased inflow in mid-July saw the storage rise to a maximum capacity of 480 GL by September. With no additional inflows following the July fresh, the storage remained under NSW control and was at 270 GL at the end of June 2006. The lakes will revert to MDBC control when they next reach 640 GL.



Lock 15, Euston

(Photo: Michael Bell)

Figure 7 **Storage behaviour resulting from inflows and the operation of major storages in the Murray River system**



* Menindee Lakes has been in NSW control since mid March 2002, and will not return to MDBC control until the storage next exceeds 640GL.

During the 2005–06 season Commission staff were heavily engaged in several important environmental operations:

- Barmah–Millewa Forest watering
- sustained raising of Locks 1, 4, 5, 6 and 8
- lowering of Torrumbarry Weir pool
- Dartmouth Dam varied release patterns
- unregulated flow management including environmental considerations.

The implementation of these changed operations has added to the complex management requirements of the River. In meeting environmental needs operators have worked hard to ensure service to consumptive and recreation users is not compromised.

Snowy Mountains Scheme

Total active storage in the Snowy Mountains Scheme at the end of April 2006 was 1720 GL (32 per cent).

Releases from Murray 1 Power Station for the twelve months to 30 April 2006 was 1195 GL, made up of:

- 1016 GL (annual release 1062 GL, less 46 GL water saving allocated to Snowy Murray Development)

- 38 GL of River Murray Increased Flows guaranteed to secure Victorian support for the 2005–06 Snowy Water 'deal'
- 42 GL 'flexibility provision', being the volume that was actually released from the maximum 200 GL in 2005–06 under the Murray Water deal (2005–06)
- 99 GL, the volume advanced from inter valley transfers of Snowy–Tumut above target water.

RMW operations and the water delivery system

River Murray Water operations are undertaken by:

- a relatively small team based in Head Office, Canberra, focused on management, river modelling and system operations, and special projects
- three state government constructing authorities focused on the site operation and maintenance of the water storage and delivery assets, plant and equipment, associated lands and buildings.

A summary of RMW income and expenditure for 2005–06 is given in Table 5.

Current staff numbers that were effectively dedicated to RMW activities at 30 June 2006 were as follows:

Commission Office	21 staff (4 management, 12 professionals, 3 technical and 2 administrative support)
Constructing authorities	118 staff.

For its own staff, the Commission assumes direct responsibility for training, career development, occupational health and safety, and succession planning. The constructing authorities have the prime responsibility for these matters for the staff they employ to undertake RMW activities. However, the Commission does actively support them, particularly in the areas of OH&S and best practice maintenance management. The Commission takes a special interest in the wellbeing of those staff located at the more remote assets that are not readily accessible or well supported with normal community services, endeavouring to improve the level of amenity and working to create a sense of 'family'.

Occupational health and safety

The Commission continues to place a high priority on the safety of staff, their families and the general public at all our assets. Our target is zero lost time injuries for staff. In the past year no lost time injuries were reported to the River Murray Water Committee by the state constructing authorities or their contractors.

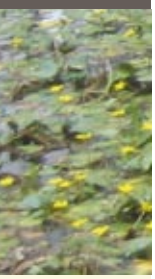


Table 5 River Murray Water income and expenditure, 2005–06

	NSW $'000	VIC $'000	SA $'000	TOTAL $'000	2005 $'000
INCOME					
Water Storage and Supply-Access	9,093	7,880	3,914	20,887	19,085
Water Storage and Supply-Consumption	3,897	3,377	1,677	8,951	8,179
Salinity Mitigation	3,449	3,453	3,447	10,349	11,602
Specific Beneficiaries	1,090	1,092	1,479	3,661	3,946
Subtotal (Income from Primary Customers)	17,529	15,802	10,517	**43,848**	**42,812**
Hydro-Generation				791	1,273
Other Operating Income				568	519
Sale of Water				34	
Recovery of Salinity Costs				240	79
Interest				1,150	932
Add: Carried over from Previous Year				2,480	3,713
Less: Carried Forward to Following Year				-2,652	-2,480
Total Income				**46,459**	**46,848**
RECURRENT EXPENDITURE					
Water Storage and Supply				23,588	23,955
Salinity Mitigation				4,146	3,972
Navigation				1,491	1,188
Recreation and Tourism				782	666
Other				924	221
Total Recurrent Expenditure				**30,931**	**30,002**
OPERATING SURPLUS				**15,528**	**16,846**
Commonwealth Contribution				6,663	5,503
TOTAL AVAILABLE FOR INVESTIGATION AND CONSTRUCTION				**22,191**	**22,349**
INVESTIGATION AND CONSTRUCTION PROGRAM				**29,014**	**27,285**

However, one significant incident was reported. On 23 March 2006, while the work vessel *Maratala* was moving up the Murray River from the Lock 7 chamber, its raised boom struck an overhead power line. The incident was reported immediately. Procedures were in place for undertaking such manoeuvres but they have since been thoroughly reviewed and all involved were interviewed to determine ways the procedures could be improved and to determine if the staff involved required additional training.

In 2005–06 works to improve the safety of operations continued, in particular:

- complete refurbishment of the electrical cabling at the Goolwa Barrage to improve reliability and safety of the operators
- completion of the installation of the six vertical axis gates at Mundoo Barrage. The gates partially replace a local stoplog operation with a much safer remote control operation
- the navigable pass at Lock and Weir 10 was upgraded this year; locks and weirs 7, 8 and 9 had already been upgraded. The completed works avoid the use of divers when reinstating the navigable pass section of the weir after major flood events
- the program of adding handrails, grid-mesh ramps and decking continues at the locks and weirs
- construction of walkways on the downstream face of Dartmouth Dam to provide safe access for surveillance staff has been completed. Following a thorough audit of access at Dartmouth Dam improvements to existing and addition of new ladders and stairs have been made at a number of sites associated with the high and low level outlet works. This work has greatly improved the safety of working in and around these large structures
- trimming of batter slopes in cascade spillway to re-establish minimum widths of berms of Dartmouth Dam.

Core water resource modeling

MDBC employs a core group of modellers responsible for the maintenance and development of the Commission's river models and hydrographic data management systems. This group also provides training and guidance to the modellers working on specific projects and is available to investigate other water resource issues as they arise.

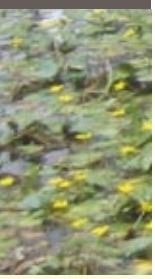
Recalibration of River model

The MSM_Bigmod model of the Murray and Lower Darling rivers has been recalibrated in order to fully define the diversion Cap for the Murray and the Lower

Darling valleys. A calibration report has been written which will be reviewed by the independent technical auditor for the Cap.

Support for River Murray Water operations

Modelling has been used to resolve issues with accounting for transfers between Hume Dam and Lake Victoria, 'water deals' between irrigators and Snowy Hydro Limited, and potential restrictions due to constraints on channel capacity. Flow and salinity forecasts have been improved, as has the system for assessing options for short-term operations, by modelling future outcomes with the inflows and climatic conditions experienced in each of the last 114 years.



Collecting and monitoring water data

MDBC funded ongoing monitoring and operation of state hydrometric networks, and collection and provision of hydrometric data for water and salinity management in the Murray River system at key locations across the Basin.

As well as routine hydrometric operations specific project work included:

- an upgrade of upper Murray gauging stations to flood specifications
- an investigation of electronic flow measurement instrumentation for the Murray River at Morgan
- in situ trials of equipment and instrumentation at the barrages and Lower Lakes
- development of an upgraded hydrometric database, including negotiations for the automated supply of time-series data with state agencies with similar developments or capability.

Strategy 2.2
Support development of open, barrier-free markets for interstate water trading

The interstate water trade program

A key task under this strategy is to develop and implement open, barrier-free markets for water trading in the southern connected Basin, consistent with the National Water Initiative.

During 2005–06, the Murray-Darling Basin Commission and its partner governments developed a revised Schedule E to the Murray-Darling Basin Agreement to enable the geographic expansion of interstate water trade within the southern connected Murray-Darling Basin.

On 19 May 2006, the Ministerial Council agreed to a revised Schedule E to operate from 1 July 2006. The revised Schedule E permits exchange rate and tagged interstate water trade between the three states of New South Wales, Victoria and South Australia. More specifically, achievement of this milestone enables Victoria and South Australia to continue to conduct exchange rate trade within the expanded area.

During 2006, the Commission considered and approved some of the required protocols to support the implementation of the revised Schedule E.

In May 2006, the Ministerial Council also welcomed the announcement by New South Wales, Victoria and South Australia that an agreement had been entered into allowing for an interim pilot tagged trading scheme to operate between the three states, utilising the temporary trade provisions contained within the revised schedule.

Communication material was developed to support the implementation of interstate water trade from 1 July 2006. Fact sheets, 'Questions and answers' and a 'How to' manual are currently being finalised.

The pilot interstate water trade scheme between Nyah in Victoria and the barrages in South Australia, operated by the Commission since its inception in 1998–99, ended with the Ministerial Council approval of the revised schedule.

The Commission and its partner governments are committed to developing the necessary protocols during 2006–07 to enable the implementation of tagged trading once Ministerial Council has determined its commencement under the revised Schedule E.

Temporary water trade

Temporary trade to South Australia followed a similar pattern to that of 2004–05 for most of the year, with trade into South Australia early in the season and subsequent trade out late in the year. However, there was significant trade from South Australia to New South Wales in June, leading to a net trade of 25 GL from South Australia upstream for 2005–06.

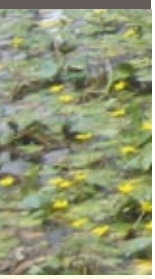
The trade between Victoria and New South Wales this year was significantly different to that of past seasons, with approximately 30 GL traded from New South Wales to Victoria. Past seasons have generally had a net trade close to zero or shown a net trade from Victoria to New South Wales. There was significant trade between the Goulburn and Murray valleys. This trade, in addition to the 60 GL carried over from 2004–05, allowed RMW to call 110 GL out of the Goulburn account to assist with maintaining Lower Murray river flows in the latter part of the summer season.

Net trade between the Murrumbidgee and Murray was approximately 18 GL , including 2004–05 carry over of 4 GL. Clearance flow at Balranald was approximately 21 GL resulting in a 3 GL deficit at the beginning of the 2006–07 water year.

Strategy 2.3
Sustain and improve physical asset base

The assets controlled and managed under the Agreement are investigated, designed, constructed, operated and maintained, for and on behalf of the MDBC, by the constructing authorities from New South Wales, Victoria and South Australia. They are, respectively:

- State Water Corporation and Department of Natural Resources
- Goulburn–Murray Water
- the Minister for the River Murray (including the operating agent for South Australia, South Australian Water Corporation).



Dartmouth Dam wins 2005 Collings Trophy

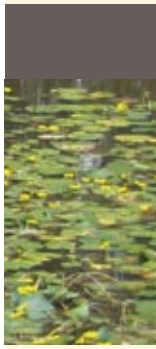
River Murray Water exercises the MDBC's responsibilities in relation to management of the assets. Daily operation and maintenance of the structures is by a collective team from the authorities of the three states totalling 118 staff. RMW values the dedicated service of this team and appreciates the commitment and pride that is evident in the stewardship of the assets.

This sentiment is reflected in the competition for the Senator Collings Trophy. The trophy has been awarded annually since 1943 to the team looking after the asset judged to be the best maintained lock and weir. In 2003 the River Murray Water Advisory Board agreed that eligibility for award of the Collings Trophy should be extended to include all water storage assets of the River Murray System, including the larger reservoirs at Hume, Dartmouth, Lake Victoria and Menindee Lakes (the latter is owned by State Water NSW but operated by RMW under a lease arrangement when volume in storage exceeds defined levels). The judging criteria were extended to include not only maintenance and care of the works and their surrounds but also the application of contemporary asset management practice, including OH&S performance, dam safety management, operations and maintenance documentation, and performance against budget targets.

In August 2005 the Senator Collings Trophy was awarded to Dartmouth Dam. This is the first time one of the larger assets has been awarded the trophy.

During 2005–06 the major works included:

- ongoing sand pumping at the Murray Mouth due to the prolonged drought and the level of diversions from the River
- progressing the upgrade of Bethanga Bridge to 65 per cent of completion. MDBC obligations in relation to the bridge will be finalised when the upgrades are completed in 2006–07
- completion of the navigable pass and fishway at Lock 10 and award of a contract for Lock 1 to commence in 2006–07
- commencement of concrete deck replacement at Tauwitchere and Ewe Island barrages as part of a long-term program
- further river improvement works on the Hume to Yarrawonga reach of the River and on the Mitta Mitta River between Dartmouth Dam and Hume Reservoir
- completion of Stage 1 of the Pyramid Creek Salt Interception Scheme (SIS), practical completion of Bookpurnong SIS and significant progress on the Loxton SIS
- remedial works at Lake Victoria Embankment 4
- letting of contract for work on re-decking and electrics for the operating platform at Menindee Lakes.



The Living Murray Community Reference Group members visit Lock 9, March 2006

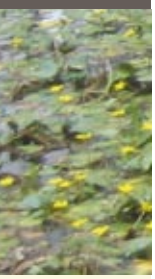
(Photo: John Baker)

Maintaining and renewing river assets

Dartmouth Dam

Routine surveillance and monitoring, annual inspections and condition assessment of infrastructure at Dartmouth Dam all indicate that the dam is in good condition and performing well.

A survey of OH&S risks associated with accessing the various sites at Dartmouth Dam has led to installation of a number of new fixed ladders, stairs and platforms on the downstream face of the dam and the high and low level outlet works. The installations have significantly enhanced ease of access and improved safety for undertaking surveillance and maintenance operations. The major remaining access issue is the berms on the very high cut above the spillway cascade. A range of options is being considered, taking into account the risks for dam safety if access to the berms is no longer permitted and the different levels of OH&S risk for each of the feasible access systems proposed.



As part of RMW's commitment to work towards compliance with Australian National Committee on Large Dams (ANCOLD) Guidelines, feasibility studies are under way to develop concept designs for improving the flood routing capacity of Dartmouth Dam. The aim is to reduce the risk of failure of Dartmouth Dam under extreme floods to as low as reasonably practical (ALARP). Considerable progress was made over the past year by Goulburn-Murray Water, consultants GHD and RMW, with assistance from external expert reviewers, towards developing a preferred concept. The preferred concept will also re-establish the design level of the clay core, which over the life of the dam has settled more than the design camber provided at the time of construction.

Hume Dam

Routine surveillance and monitoring, annual inspections and condition assessment of infrastructure at Hume Dam all indicate that the dam is performing within expectations following the remedial works over the past decade.

Steady progress has been made over the past year on implementing remedial measures recommended at the November 2004 workshop on failure modes effects analysis at Hume Dam. These works will address residual second-order risks following the major risk reduction works of 1994 to 2003.

In parallel with the above works, the review of Hume Dam catchment hydrology was progressed, although not as much as expected. A catchment model has been developed and calibrated against known flood run-off data. The computer model is ready to run with simulated extreme floods, up to the magnitude of a probable maximum flood. The resulting modelled outflows will indicate the extent, if any, of spillway capacity upgrade required to meet ANCOLD Guidelines.

Work has begun on replacement of one of the staff cottages at Hume Dam.

Yarrawonga Weir

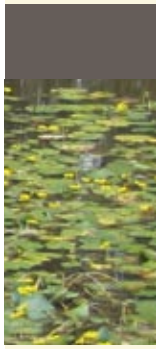
Routine surveillance and monitoring, annual inspections and condition assessment of infrastructure at Yarrawonga Weir all indicate that the weir is in good condition and performing well.

Significant progress was made during the year on:

- the spillway superstructure
- replacing electric motors
- strengthening the framework to remove the risk of failure should a gate jam
- improving compliance with OH&S regulations for rotating machinery.

Euston Weir

Operation of Euston Weir has been restricted for some time due to concerns about stability if the level of the pool is raised above normal (unless the weir is stripped, as in a major flood event). Euston is included in the navigable pass upgrade and fishway construction program. In parallel with this work, any remedial works required to ensure stability as weir pool levels are raised for operational purposes will be undertaken.



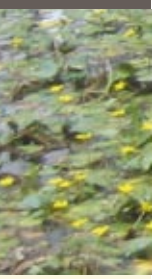
Yarrawonga Weir

(Photo: MDBC)

In the past year, investigations have also been undertaken on site and concept designs prepared for the structural works that will provide the desired increased operational capacity.

Other locks and weirs

Manipulation of the weir pools for environmental purposes has been extended in the past year. The pool levels have been raised above normal full supply at Lock 1 (+0.08m), Lock 4 (+0.2m), Lock 5 (+0.45m), Lock 6 (+0.15m), and Lock 8 (+0.6m). A checklist was prepared and worked through to ensure the weirs were in a fit condition to be operated in a manner significantly different to their original design intention. After one successful season of 'artificial flooding', weir pool manipulation for environmental benefits should become a routine procedure in coming years, particularly after the Navigable Pass Upgrade and Fishways Project is completed.



As well as raising pool levels above normal full supply level to simulate flooding, the pool level has been lowered significantly at Torrumbarry and Euston and planned for Lock 8. This enabled an inspection of the banks to determine the extent of 'notch' erosion as a result of long-term steady pool levels. It also provided an environmental benefit as it drained some wetlands and creek beds that would undergo wetting and drying cycles if the weirs were not in place.

River channel management

River channel improvements are currently targeting three areas of the water delivery system. They are the Mitta Mitta River channel between Dartmouth Dam and Hume Reservoir, the Murray River channel between Hume and Yarrawonga, and the River Murray Mouth.

Mitta Mitta River channel improvements

During the 2002–03 season large volumes were released from Dartmouth at channel capacity in the Mitta Mitta River for sustained periods. Following this, the Mitta Mitta River remedial works program was increased to address erosion damage. By 2005–06, most of the rectification works had been completed.

Limited releases from Dartmouth over the past few seasons have not caused significant further damage. As a result, only limited remedial works were undertaken over the last twelve months. During 2005–06, Goulburn–Murray Water and the North East Catchment Management Authority began a review of the 1998 Mitta Mitta River Waterway Management Strategy to determine the effectiveness of remedial works and altered operations conducted in recent years. This investigation will be finalised during 2006–07.

Hume to Yarrawonga River Management Plan

Works continued under the 2002 River Management Plan for the Hume to Yarrawonga reach of the Murray River. The plan aims to balance water conveyance, economic production and environmental objectives for the reach. It has been developed in consultation with the Advisory Group for Hume to Yarrawonga Waterway Management, which represents agencies from each state together with local landholder interests, local government and wider community representatives.

Programs under the River Management Plan include physical works under the Priority Reach Program and the Whole-of-Reach Program. In addition, the Land Management Review considered flood easements for regulated flows.

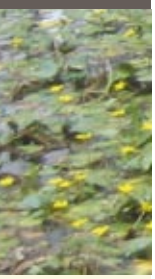
Hume to Yarrawonga reach physical works

By the end of 2005–06, condition assessments and conceptual designs had been completed for ten of the fifteen reaches.

The following on-ground works were completed in 2005–06 across all programs.

Erosion control	• Three anabranch bed grade control structures (full stream width timber pile fields) – on Sawyers Creek (2) and Common Creek • Three anabranch bank erosion control sites (timber pile groynes) – on Dights Creek(2) and Wodonga Creek • Eight anabranch bank erosion control sites (rock armouring) on Dights, Coulthards, Normans, Coyles, Willow and Snarts creeks • Seven Murray River main stem bank erosion control sites (timber pile groynes) • Eleven Murray River main stem bank erosion control sites (rock armouring) • Two Murray River main stem bank erosion control sites (geotextile turf reinforcement mats and notch treatment) • Approximately 7000 timber piles driven, 8000 tonnes of rock placed, and 450 lineal metres of geotextile laid that will protect approximately 3.8 kilometres of river bank
Snags	• No snags removed • Sixteen River red gum snags realigned for navigation or erosion control purposes

Willow management	• One willow island removed • No willow snags removed • Lopping and/or poisoning at six sites totalling 1.8 kilometres on Murray River main stem and Dights Creek • Continuation of isolated willow tree eradication on Murray River main stem between Hume Dam and Lake Mulwala
Revegetation	Revegetation was undertaken at 22 sites on the Murray River main stem and anabranches using local native species of trees, shrubs, reeds and grasses. A total of 6.5 kilometres of riverbank was fenced to allow revegetation to proceed.



Hume to Yarrawonga reach land management review

Significant progress continued in 2005–06 towards purchasing flood easements to confirm the Commission's rights to pass regulated flows within existing channel capacity on up to 106 affected properties in the Hume to Yarrawonga reach. The total cost of easements for the period was $1.88 million. Consultants Hassall & Associates had completed property assessment fieldwork for all of the properties in the reach during 2005–06, including reassessment of some properties during a period of high regulated releases from Hume Dam in early 2006.

By the end of June 2006, 64 of the estimated 68 Victorian offers had been issued, and 42 offers had been accepted by landowners to date. A further seven Victorian properties were assessed but no offer will be made as the impacts occur solely on Crown land on these properties.

By the end of June 2006, 31 of the estimated 36 NSW offers had been issued, of which 23 had been accepted to date. Two NSW properties were assessed but no offer will be made for these properties as the impacts occur solely on Crown land.

The nine remaining offers have generally been delayed by landowners' personal circumstances. Remaining offers will be forwarded to these landowners in early 2006–07. Properties of landholders in this reach have been increasingly affected by river regulation over many decades. The continued progress achieved throughout 2005–06 has been a significant milestone for both River Murray Water and these landholders.

Murray Mouth dredging

The Basin has now gone through a fifth year of well below-average rainfall and the River has not experienced a significant flood event in that time. Combined with the level of extraction from the River for irrigation and domestic water supply, the effect has been that flow through the Murray Mouth is reduced significantly.

As a consequence of these severe conditions the Murray Mouth would most likely have closed in 2003. In mid 2002 the Ministerial Council made a decision to keep the Murray Mouth open to maintain health of the Coorong by improving the connectivity between the sea and the Coorong. This was to be achieved by pumping sand to create two channels: one into the Coorong and the other into Goolwa channel. The sand pumped was to be deposited back onto the ocean beaches.

This year at the barrages a small number of gates (including the three fishways) were kept open from November to May. Over 600 GL was released through the barrages in 2005–06. Peak discharge was about 12 000 ML/d for four days only in November 2005. It was not sufficient to cause any significant scour that would reduce the need for dredging.

The dredging operation has been very successful in achieving the connectivity targets and maintaining the depth and shape of the channels. It is an expensive exercise, however, which has been the major reason for the steady drawdown of the Commission's reserves over the past three years.

This past year has seen a milestone: in May 2005 the design channels were achieved for the first time since dredging began in October 2002. This has resulted in a reduction in the dredging effort with a corresponding cost saving. From July 2006 it is proposed to continue with one dredge to see whether connectivity targets for the Mouth can be maintained now the bulk of the material has been removed and the operation can concentrate on balancing the incoming drift from the sea. As a precautionary measure the second dredge will remain on standby until it is clear that one dredge can maintain the connectivity targets.

Of course, if a significant flood event occurs then dredging can cease.

Navigable Pass Upgrade and Fishways Project

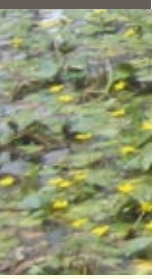
The construction phase of the Navigable Pass and Fishways Project started in mid-2001. SA Water is managing the project under the direction of a project steering committee, chaired by the Commission, with representatives from SA Water, the Department of Water, Land and Biodiversity Conservation (SA) and State Water (NSW). The project involves:

- replacing the navigable pass section of the weir
- replacing piers constructed in the 1960s when the navigable pass sections were narrowed
- constructing a fishway for fish passage at each weir.

In June 2006 Built Environs achieved practical completion of the construction of the navigable pass upgrade and fishway at Lock 10.

In April 2006, the Ministerial Council approved the award of a contract by SA Water to York Civil to undertake the construction of the navigable pass upgrade and fishway at Lock 1.

Following the Australian Government budget announcement of additional funds, the project steering committee met to determine ways of re-scheduling the overall project. It is proposed to complete construction of all the navigable pass upgrades and fishways between Blanchetown (Lock 1) and Euston (Lock 15) by the end of 2009.



Lake Victoria

In December 2005 strong winds coinciding with a full reservoir produced waves that overtopped Bank 4 adjacent to the Lake Victoria Outlet Regulator. The wave action eroded the upper part of the embankment, causing a 200m length of the upstream face to slump. Emergency repairs were undertaken immediately. Long-term, more robust face protection works are in progress to ensure the lake can safely be filled to full supply level next spring.

Barrages

Replacement of the concrete deck at Tauwitchere and Ewe Island barrages has begun. The new decking has been designed to better withstand the harsh marine environment and provide greater safety for operators. The program is expected to take up to 15 years as existing deck units are replaced at the end of their serviceable life.

Menindee Lakes

The Menindee Lakes structures are State Water NSW assets. River Murray Water has a lease arrangement that gives it access to the stored water and permits it to direct operations when total storage exceeds defined levels. Part of the lease arrangements requires RMW to contribute to 75 per cent of the cost of operations and maintenance. This year a major expenditure commitment was the letting of a contract for the refurbishment of the access deck, and the electrical cabling and controls of the gates on the Main Weir on the Darling River. The works will carry over into next financial year.

Compliance with ANCOLD Guidelines

In the first year of application of the ANCOLD Guidelines, a pro forma for recording the level of compliance has been developed and sent to the jurisdictions for review. Gathering the relevant information for the individual assets has begun. Information has been received from Goulburn–Murray Water (Dartmouth, Yarrawonga, Torrumbarry and Mildura) and SA Water (Lake Victoria), and is being collated by State Water

(Hume). It is expected that RMW will provide its first report to the River Murray Water Committee early in the 2006–07 financial year and continue to update the assessment from then on.

Strategy 2.4
Improve environmental and consumptive use outcomes through development of better water management and delivery tools

Daily model of the Murray River

A steering committee oversees all aspects of the development and implementation of the daily model.

One of the first tasks of the steering committee was to establish a strategy that would address both the immediate and longer-term needs of the Commission while delivering the maximum possible benefits to the partner governments. To this end a study was commissioned to refine the project objectives, to assess the suitability of a range of existing technologies and to recommend a way forward.

In addition to meeting the Commission's functional requirements the study recommended that the solution strategy should:

- encourage the sharing of modelling skills and results with jurisdiction partners
- provide a modelling platform that would support and encourage collaboration between them
- be capable of evolving to address more complex, whole-of-Basin problems.

It was felt these objectives could be best achieved through the adoption of the eWater CRC Integrated River Management product. The outstanding characteristics of this strategy are that:

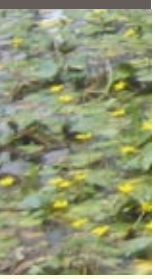
- the eWater CRC enjoys the support of the jurisdiction partners and promotes a philosophy of skill sharing and collaboration
- it promises to deliver a common modelling platform for use throughout the Basin
- the eWater product will evolve to address more complex system wide problems as the eWater research is realised.

The Commission has accepted this basic recommendation and is now investigating ways in which the daily model development and the eWater program can be aligned to ensure a satisfactory and timely outcome is achieved.

A real-time model of the upper Murray

Following extensive consultation with partner state agencies and the Bureau of Meteorology, and a review of the available technology, River Murray Water committed to an upgrade of the Hydstra hydrometric data management system in mid 2005.

An upgraded data management system is required before the implementation of a real time flow forecasting model can take place. The Hydstra software suite is used by all suppliers of hydrometric data to River Murray Water. It was originally developed as a tool for hydrographers to manage hydrographic data. The RMW upgrade requires development of the core software to fully meet the specification of an operational data management system. A significant component of this development is being undertaken 'in kind' by the software provider in recognition that the RMW upgrade will lead to a significant improvement in functionality.



A Hydstra specialist was successfully recruited in early 2006 to undertake the development of the upgraded system. The upgrade is now well under way and a fully functioning telemetry system and upgraded database is to be completed by late 2006. The telemetry application will be integrated with similar state and Bureau of Meteorology systems as far as possible to avoid unnecessary duplication in data acquisition. Development of the real-time flow forecasting model is expected to begin in late 2006.

Basin-scale integrated hydrologic models

The MDBC continued to support a Victorian Department of Sustainability and Environment project studying the impact that the 2003 Victorian fires had on the quality and quantity of water supply for downstream users.

This project will allow the prediction of the magnitude and duration of these changes and an assessment of the implications for water resource management.

A new model – the Bushfire Impact on Streamflow Yield (BISY) model – was developed to estimate the change in flow. Models developed in this project will be valuable in similar situations in the future and for ongoing analysis of bushfire recovery.

Trend analysis of return flows to the river from irrigation drains will be undertaken in 2006–07. This will provide better understanding of the potential impacts (on the Cap on diversions) of any reduction following improvements in irrigation efficiency.

Consideration will be given to the need for, and form of, an integrated modelling capacity to support analysis and management of identified risks.

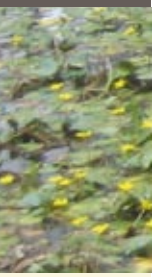
Enhancing and improving current MDBC water accounting systems

A water accounting system has existed within River Murray Water for decades to inform the allocation of the waters of the Murray River system to states. The National Water Initiative (NWI) and The Living Murray First Step create new requirements for accounting systems, which include reporting to a larger audience who have had limited or no exposure to water accounting. A chartered accountant dedicated to further water accounting development began work with the Commission in November 2005.

Work has begun to produce Murray River system water accounting in a financial accounting system, which includes creating a chart of accounts and uploading several years of historical data. Strong contributions have been made to the NWI project 'Stocktake and analysis of Australia's water accounting systems' directly and through that project's Expert Advisory Panel. Significant progress has also been made in developing an initial conceptual framework based on financial accounting principles.

Looking to the future, three main tasks have been identified for 2006–07:

- continued development of a conceptual framework for water accounting consistent with financial accounting principles and the National Water Initiative
- development of a prototype water accounting system for the Murray River system, including live reporting, inter-valley accounting, and reports to underpin The Living Murray Environmental Watering Plan
- scoping the expansion of water accounting from a river-based system to a catchment-based system.



Barmah–Millewa Forest icon site

Part 3: Delivery of high-quality advice to Council, and achievement of its endorsed priorities, through strengthening the capacity of the Commission and the Commission Office

Strategy 3.1

Employ contemporary best practice financial and business management systems

The Finance and Administration unit is responsible for financial and administrative matters across the MDBC. This includes budgeting and reporting, accounting systems and procedures, financial accounting and contract management, together with facility and property management.

To deliver on the requirements of the Strategic Plan the Financial and Administration Unit is upgrading the existing financial management framework to contemporary best practice standards. Budgets were aligned to the Strategic Plan through a revised business planning process that shows clear linkages with tasks that support our strategies and objectives. In April 2006, the payroll activity was transferred from the Human Resources Unit to Finance and Administration, achieving greater efficiencies in linking payroll activities to program budgets.

A key achievement in 2005–06 was the timeliness of the preparation of financial records in accordance with the Australian Equivalents to International Financial Reporting Standards (AEIFRS) and end-of-year reporting within very challenging timeframes.

Linked with improved business planning has been the approval of new delegations within the MDBC Office and a rollout of a Delegations Training and Implementation package. This process reflects best practice and a clearer delineation of roles and responsibilities linked to the Strategic Plan.

Strategy 3.2

Strengthen corporate, technical and policy capacity of the Commission and the Commission Office, to deliver on its obligations to partners, staff and the general public

The MDBC Secretariat provides support services to the Murray-Darling Basin Ministerial Council, the Murray-Darling Basin Commission and high-level committees within the Commission Office.

The Ministerial Council met formally in September 2005 and again in May 2006, the former preceded by a joint meeting with the Community Advisory Committee. In addition, a teleconference of Lead Ministers was held on 17 October 2005 with the outcomes formalised through an out-of-session decision.

The Commission met three times; in August 2005, December 2005 and March 2006. A fourth meeting, scheduled for June 2006, was postponed pending revision of the budget.

The Secretariat supported 16 formal high-level committee meetings throughout the year and one ad hoc high-level committee focused on the budget.

The Secretariat was also involved in the establishment of a new high-level committee structure following noting of the Commission Strategic Plan 2005–06 to 2009–10 by Council in September 2005 (see section 3.3).

In addition, the Secretariat managed out-of-session decision-making processes for Council, Commission and high-level committees. The corporate record of all agendas, papers, minutes and reports for these committees is maintained by the Secretariat along with membership details for Council and the Commission. Appendixes A and B detail the membership of Council and the Commission respectively.

This year, the Manager Secretariat was also the Executive Officer of the Community Advisory Committee and, along with the staff of the Secretariat, supported the activities of the CAC (see pp. 153–8).

The Secretariat was restructured during 2006 to improve support to the Commission. A separate position for the Executive Officer of the Community Advisory Committee, was created with recruitment action in place as at 30 June 2006.

Supporting natural resource management in the Basin

In 2005–06 the MDBC continued its investment in the Basin's future managers through Special Forever and Regional Youth Conferences. (See page 88.)

2005–06 also saw the completion of Australian Research Council Grant titled 'Activating and maintaining community participation in natural and cultural resources initiatives in the Murray-Darling Basin'. This was a four-year project administered by the University of Tasmania with the MDBC taking the role of industry partner in conjunction with the National Museum of Australian (NMA) and RMIT University.

This investment trialled different approaches to community participation in Wentworth, Toowoomba and Wagga Wagga. It also provided:

- a catalyst for closer partnership with the NMA and the rural communities involved in the project
- increased awareness by regional communities involved in the project of their place and role in the Murray-Darling Basin
- provision to the MDBC of expert advice on capacity-building investments through discussion and feedback on evaluation in progress.

People

The Human Resources (HR) Area is responsible for the contemporary functions associated with workforce planning and development; selection and recruitment; learning and development; employee relations; performance management; occupational health and safety; and interpretation and administration of the terms and conditions of employment.

The main areas of focus of the HR area in 2005–06 have been:

- HR policies, with the objective of providing a suite of workable policies owned and developed in conjunction with staff and management. The policies are designed to allow managers to manage within sphere of influence with HR becoming a partner and providing expert advice rather than directing. This process will continue over the next two years with development and implementation of programs to equip managers with the necessary knowledge to manage and develop staff.
- Creation of an HR Committee chaired by the Chief Executive to manage ongoing HR policy development in consultation with HR specialists and WCC members.
- Creation of an OH&S Committee chaired by an Executive Team member, with WCC representation and expert advisors to ensure maintenance of a healthy and safe workplace with appropriate policies and practices.
- During late 2005 the Commission conducted a staff survey independently managed by Colmar Brunton Social Research. In line with the previous survey, a response rate of 88 per cent was achieved.

Areas identified that need more attention were performance management, leadership and communication. In response to the staff survey, a manager development program, a separate leadership program for senior level staff and a change management protocol are under development.

The Commission will monitor progress in implementing these programs during 2006–07. They will make the Commission a more productive workplace.

Following the development and implementation of the Commission's Strategic Plan 2005–2010 and Annual Business Planning 2005–06, the Performance Management Development System (PMDS) has been re-aligned based on a financial year performance cycle. Salary advancement (where applicable) is now clearly linked to performance assessments undertaken throughout the organisation in June.

Another major area of activity has been assisting the Commission's Workplace Agreement Team in the negotiation on the next collective workplace agreement. The current agreement will terminate in October 2006. The new agreement will reflect the needs of staff and management, consistent with the federal government's WorkChoices legislation.

The period 2005–06 was the second year for the Chief Executive's Rewards and Recognition Initiatives. The Commission values its employees and celebrates short- and long-term achievements in an appropriate manner. The rewards are designed to provide a structured approach to acknowledging particular achievements, sustained excellent effort and demonstration of the Commission's values and core behaviours.

Reporting of National Water Initiative implementation by MDBC

During 2005–06, the office of the MDBC has had increasing involvement in a range of activities occurring under the National Water Initiative (NWI). All six of the jurisdictions within the Murray-Darling Basin are signatories to the NWI, Australia's blueprint for national water reform.

The aim of MDBC involvement in NWI activities is to:

- maximise the potential for synergies between policy, research and development undertaken at the Murray-Darling Basin and national levels
- ensure that any policy development within the Murray-Darling Basin is aligned with the National Water Initiative
- share lessons learned at the Murray-Darling Basin level, to inform processes and decisions at a national level
- provide information and data to the National Water Initiative as requested.

Relaxing by the river by Stacey Chessum, 12, Tongala, Victoria

This involvement has been undertaken through a range of means including membership on committees, written submissions, and the provision of data and information. The activities in which the MDBC Office has been involved include:

- the NWI Committee
- the development of Australian Water Resources 2005, a baseline assessment of water resources
- NWI Performance Indicators
- Water Accounting Development
- Compatible Registers Development
- Water Smart Australia and Raising National Water Standards
- strategic planning for the National Water Commission.

In addition, a process has commenced to undertake a review of the Murray-Darling Basin Agreement to ensure consistency with both the NWI and the Council of Australian Governments Intergovernmental Agreement on addressing water over-allocation and achieving environmental objectives in the Murray-Darling Basin (known as The Living Murray IGA), as required in each of these agreements.

This review, for purposes of consistency, will be undertaken in an integrated manner with a separate, external review of the governance and financing arrangements of the Murray-Darling Basin Commission, which was agreed to by Council at its meeting in May 2006.

Further information regarding the National Water Initiative, and the National Water Commission in particular, can be obtained from <www.nwc.gov.au>.

Strategy 3.3
Better align the roles and skills of the Commission and jurisdictions

The approval by the Murray-Darling Basin Ministerial Council of the MDBC Strategic Plan in September 2005 was a major achievement for the organisation. The plan sets out the direction for the MDBC for five years (2005–10) and was developed by the MDBC Commissioners working with senior management. The document sets out the three primary objectives and seventeen strategies to achieve these objectives. The plan also outlines key performance indicators against which the Commission will report and assess its performance.

The completion of the Strategic Plan allows business plans to be developed that outline investment in the strategies and will be implemented through a range of defined tasks. These business plans are supported by four Divisional operational plans that outline investment at a project level (see Figure 8).

A new high-level committee structure was established for the MDBC during 2005. This new structure reflects the reporting requirements for the implementation of the new Strategic Plan. The terms of reference and business rules for all committees (excluding the Audit and Compliance Committee) were endorsed by Commission in December 2005, with those of the Audit and Compliance Committee yet to be finalised, following its first meeting in June 2006.

At the Ministerial Council meeting held on 19 May 2006, the Australian Government advised that it planned to provide the Murray-Darling Basin Commission with an additional $500 million to:

- facilitate the timely implementation of pre-existing policy decisions of both Council and the Commission
- support an expanded Environmental Works and Measures Program to ensure that best use is made of water recovered for The Living Murray
- accelerate water recovery measures under The Living Murray.

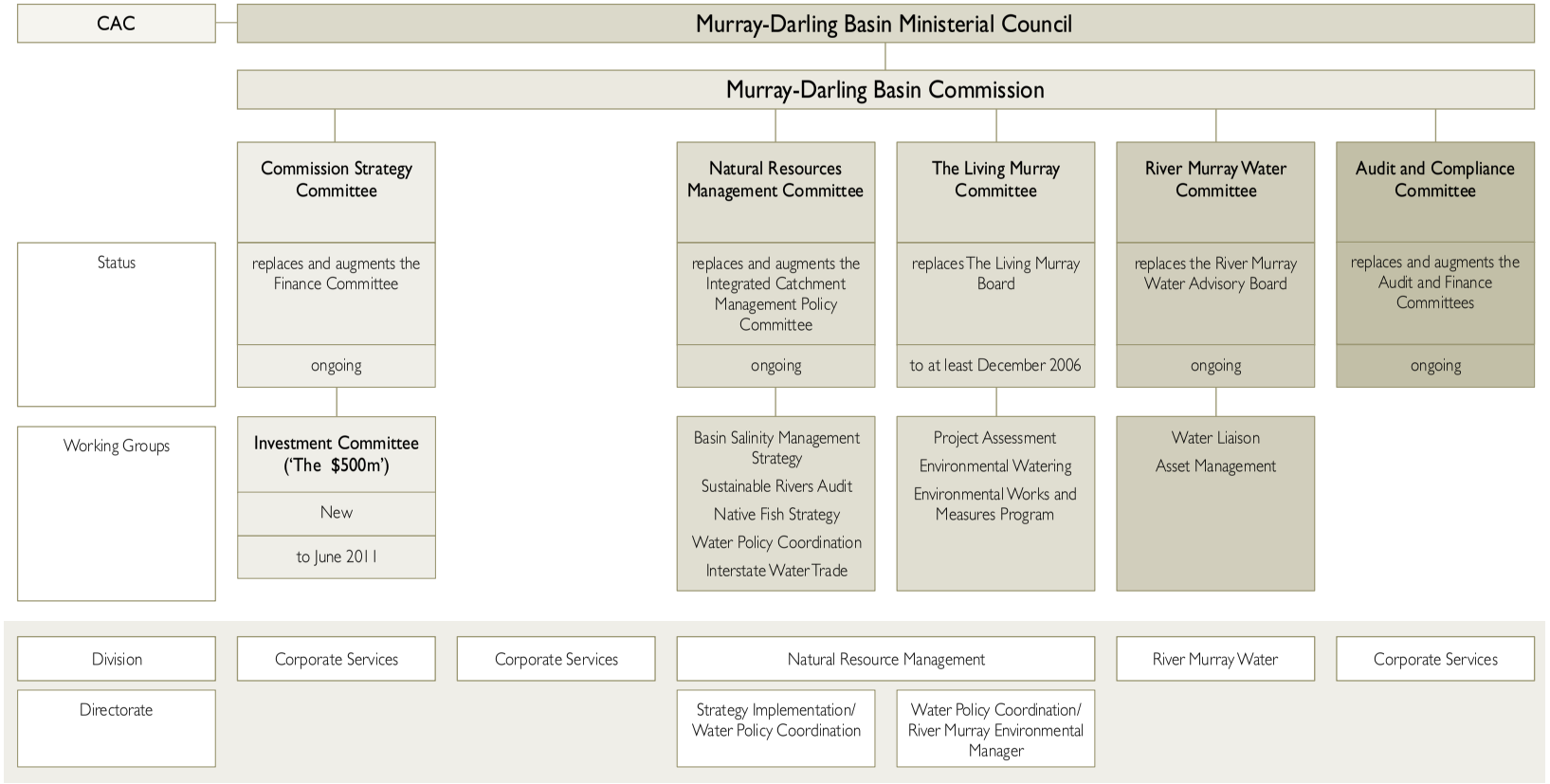
These funds were provided through the Department of Agriculture, Fisheries and Forestry on 28 June 2006 and placed in a special deposit account.

In May 2006 five cost efficiency and effectiveness reviews in the areas of Corporate Services, River Murray Water, Murray Mouth dredging, salinity management and The Living Murray Environmental Works and Measures program commenced. These reviews (scheduled to be completed in August 2006) will provide a review of a range of activities including current financial management and administration.

The reviews will identify opportunities and recommend actions to improve cost effectiveness and efficiency in each area. Cost effectiveness considers whether the same outcomes can be achieved at a lower cost by different means, or whether minimally lower quality but still acceptable outcomes can be achieved at a substantially lower cost. Cost efficiency considers whether the existing means can be delivered at lower cost.

The reviews will also provide guidance on how stakeholder expectations can be aligned to current activities and how contemporary project and contract management practices can be implemented.

Figure 8 MDBC high-level committee structure as at 30 June 2006



Strategy 3.4

Develop and maintain necessary Commission communication and technical and corporate information resources

An ICT Services Strategy has been developed for the period 2004–07 to:

- develop a baseline understanding of current ICT capability compared with best practice
- identify changing and future business needs and determine how to use ICT to improve program effectiveness and performance to assist in achieving the Commission's major business goals, strategies and activities, planned for the next four years
- provide a framework for executive to make decisions and choices around the quantum and level of ICT services provided and how they to align them with business needs
- inform the corporate strategic planning process scheduled to commence in 2005.

Most of the recommendations contained in the strategy have now been implemented.

The Information Management Committee established as part of the plan oversees ICT governance and risk management issues. This committee is chaired by the Chief Executive and provides leadership, organisational structure, resources and processes to ensure that ICT sustains and extends Commission strategies and objectives. During 2005–06 this committee has ensured that ICT plans and priorities are aligned with the business requirements, allocated and prioritised resources, reviewed policy and procedures and ensured that ICT assets (including software licenses) are adequately managed and protected.

Further progress has been made in providing awareness and training in the Information and Technology Information Library (ITIL) framework. This is a framework and documentation that outlines the principles under which ICT services should operate to conform to international best practice standards. Three ICT staff have undertaken accredited ITIL courses and are coordinating training to increase awareness of these principles.

An upgrading of the Commission Office intranet was completed in June 2006 to improve usability. The new intranet site allows greater opportunity for staff to contribute and edit data and information to ensure the site contains current and relevant information.

Security has continued to be a major focus of the ICT Unit with additional security software installed on all desktop computers to detect spyware and to manage network traffic. Network appliances that provide intrusion detection and prevention are also being evaluated.

An improved level of support for corporate applications was achieved in 2005–06. System upgrades and patches have been implemented throughout the year, improving and extending performance in the areas of finance, payroll and records management.

The implementation of service desk arrangements also has resulted in improved services to staff. The staff survey conducted in 2005 resulted in an 86 per cent satisfaction rating with ICT services.

Spatial information management within the MDBC

Natural resources information—the building of knowledge management capacity and improving information access and integration—represents a key resource for the MDBC, which is fundamental to providing a sound foundation for policy development and decision making.

Maintaining this information and coordinating access requests by stakeholders is a vital component of the Commission's overall information management process. The Natural Resource Information unit has responsibility for managing the MDBC spatial natural resource information.

In 2005–06 the implementation of a new spatial data storage and indexing system has increased data storage capacity and improved accessibility of spatial data.

Rollout of an online catalogue of the spatial data assets of the Commission integrated into the Australian Spatial Data Directory (ASDD) framework has improved stakeholder access to our catalogue of spatial layers.

Development of new systems support and training processes has enhanced Commission capabilities in Geographical Information Systems (GIS) tools and spatial data management processes.

Planned activities for 2006–07 include:

- the development of an online mapping system using the Internet to deliver interactive maps directly to stakeholders
- continued upgrades to the spatial storage systems
- the integration of spatial data into the corporate database environment, which will benefit data accessibility and improved interoperability with other MDBC natural resource information.
- more specialised roles for Natural Resources Unit staff to meet the increasingly complex requirements of spatial data management and processing.

Groundwater Status Report 1990–2000: Finalist for Eureka Award in 2005

The MDBC and URS Australia were finalists in the Land & Water Australia Eureka Prize for Water Research for the important work undertaken and reported in the *Groundwater Status Report 1990–2000*. The project undertook a major study on the level and condition of groundwater in the Murray-Darling Basin and has provided a baseline to evaluate trends and improve sustainable management of the Basin's water resource.

This four-year project brought together groundwater data from across the Basin into a format that allowed analysis and reporting of information in a spatial context. It was the first comprehensive information product to present Murray-Darling Basin groundwater data spatially.

The report will be updated every five years.

Research partnerships

Projects generating knowledge and developing tools to improve the management of water resources were supported through contributions to the Murray-Darling Freshwater Research Centre (MDFRC), to the new eWater CRC, and to the CRC for invasive animals.

The MDFRC undertook a number of significant and critical research projects into issues such as the impacts of managed flows on fish spawning and recruitment, and the impacts of forest watering on water quality and zooplankton in the Murray Channel and Barmah Forest. The MDFRC also undertook the ongoing sampling for the River Murray Biological Monitoring Program at the Jingellic and Yarrawonga sites, and undertook a review of the quality control procedures used for sampling fish and macroinvertebrates under the Sustainable Rivers Audit.

Recently, the MDFRC began to develop an assessment framework for evaluating the interventions occurring under The Living Murray, which will significantly advance the meeting of ecological objectives. In addition to these projects, the MDFRC has been undertaking work for the Mallee Catchment Management Authority that will facilitate the implementation and assessment of The Living Murray.

Staff at the Lower Basin Laboratory have been working on developing monitoring programs for the Lindsay–Walpolla and Hattah Lakes significant ecological assets. The MDFRC also undertook regular water quality and fish community sampling in the rivers and wetlands of the Lindsay–Walpolla system to improve our understanding of fish ecology and to provide a benchmark against which future improvements could be evaluated.

Finally, the MDFRC has developed a protocol for quantifying the condition of River red gums that will improve assessments of vegetation condition and thereby improve the effectiveness of water allocations to stressed trees. All of these activities generate scientific understanding that directly informs and substantially improves water resource management. Through these and other projects, the MDFRC is continuing the outstanding contribution it has made over the last two decades to sustainable natural resource management.

The newly created eWater CRC, which builds and supports decision systems and models for total water cycle management, undertook its first year of operation with the establishment of a number of significant projects relevant to the Basin. One of these projects, which is contributing to the development of a daily model for the River Murray System, is outlined in more detail in Part 2 (see page 69).

Monash University proceeded with the third stage of a long-term scientific evaluation of the restoration of riparian habitats. This is a unique project where field sites have been developed into rigorous scientific experiments that will provide highly reliable assessments of the effectiveness of habitat reconstruction as a means of stream rehabilitation.

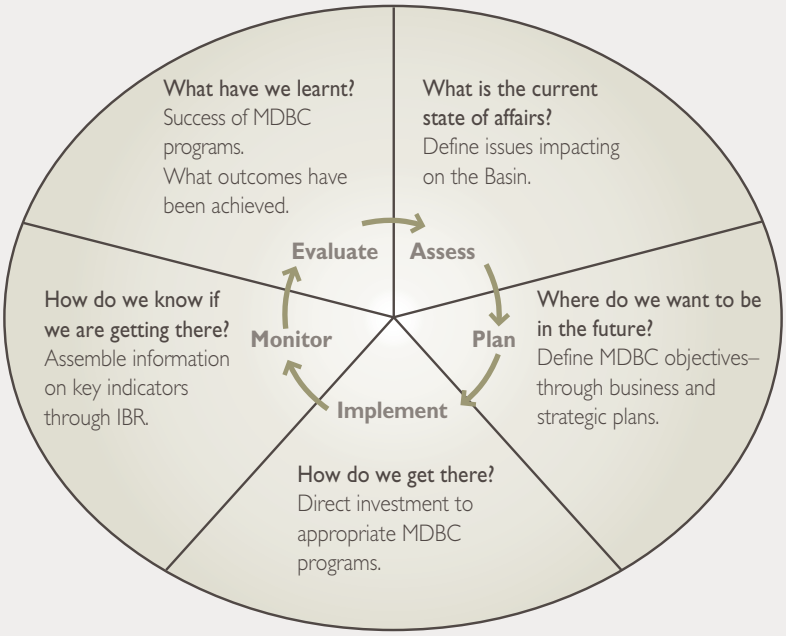
Towards an Integrated Basin Reporting framework

The drive for Integrated Basin Reporting (IBR) recognises that the environmental (such as river flow, salinity, fish communities), social and economic aspects of the Basin are interrelated, and that more information can be gained when the outcomes of key MDBC programs are viewed together rather than in isolation.

The IBR Program seeks to inform the Commission's business and strategic planning processes. It will provide an integrated overview of biophysical information held by the MDBC Office and highlight outcomes and interactions, allowing emerging issues and future priorities and directions to be identified.

By informing the business and strategic planning process, the IBR Program will close the adaptive management cycle for the MDBC at the broadest level (see Figure 9).

Figure 9 Adaptive management cycle of the MDBC



During 2005–06 a program manager and project officer were appointed to work on the IBR Program. Since their appointment the team has focused on defining the objectives of the IBR Program and scoping a framework for its implementation. They have also begun the process of identifying information currently held by the MDBC Office and assessing its potential for inclusion in future IBR.

The first year of the IBR Program is piloting a process which will bring together the outcomes of key MDBC programs with well established monitoring and reporting mechanisms such as the Basin Salinity Management Strategy, the Cap and Sustainable Rivers Audit.

In future years, the program will look to extend the integrated reporting process to include both internal and relevant external data. Key datasets relating to the condition and management of the Basin will be considered concurrently to assess whether patterns, risks, threats, gaps and priorities emerge, or if potential management actions can be identified.

Strategy 3.5
Use Council priorities to drive communication, feedback and information delivery activities with stakeholders and communities

Improving access to information about MDBC

Access to information on the Commission's programs has been promoted through a number of submissions prepared to provide information to external processes, including:

- MDBC submission to the Senate Rural and Regional Affairs and Transport References Committee Inquiry into Water Policy Initiatives
- a submission to the Productivity Commission, *Rural water use and the environment – the role of market mechanisms*
- a submission to the National Competition Policy's Review of Water Reform
- various conferences, networks and workshops.

Research funded through the MDBC's Strategic Investigations and Education (SI&E) program over the past ten years was designed to improve understanding of the complex systems of the Murray-Darling Basin. This research has informed the development and implementation of key MDBC strategies and initiatives, including the Basin Salinity Management Strategy and The Living Murray. Although most of this research has now been completed, the task of communicating the key outcomes of this research to inform management responses and decision-making continues.

A report is currently being drafted which summarises the investment in the entire SI&E program, the key research outcomes and links to existing strategies and initiatives.

Information relating to the SI&E themes Dryland, Riverine, Irrigated and Basin Communities regions is also being prepared. For example, an overview report is being

prepared to communicate the outcomes of the Irrigated Regions theme, along with a series of reports summarising research in twelve areas within that theme, such as groundwater management, environmental stewardship and water quality. Subject to appropriate approval, these reports will be made available during the coming year.

Spreading the word about The Living Murray

With the success of the 2005–06 environmental watering activities through The Living Murray, the Murray-Darling Basin Commission identified a need to enable current and accurate information to be provided to the community on The Living Murray activities.

As a result, The Living Murray media tour was held in May 2006 to educate and build relationships with key media environmental reporters, and enable them to see The Living Murray onground activities and results first hand. They were also able to access key Living Murray staff and obtain information relevant to their regions and audience.

Journalists, photographers and camera crew from ABC-TV, the *Age*, the *Weekly Times* and the *Land* joined Murray-Darling Basin Commission staff on a tour of key Living Murray sites, including the Murray Mouth, Lock 9 near Mildura and Barmah–Millewa Forest, as well as flying over Chowilla Floodplain and Gunbower Forest.

Regional representatives of The Living Murray provided a local perspective at each site, some also featuring in the subsequent media coverage.

Environmental journalists and The Living Murray representatives at the Murray Mouth barrages near Goolwa

(Photo: Sandra Volk)

Media and public affairs

Media activity was constant throughout the year with peaks of interest leading up to and around Ministerial Council meetings and in relation to the funding of various programs. The average number of media releases issued each month was four, reflecting the media interest in particular MDBC activities.

Two of these activities that received major publicity were the Special Forever program, a partnership between the Commission and the Primary English Teaching Association, and the MDBC International River Health Conference, held in Mildura in October 2005, which attracted 540 students and 130 teachers from around Australia and overseas.

Publications were targeted with articles and images to support the rollout of special launches throughout the year and to mark the announcement of the public release of a range of documents, including program annual reports. Special public relations activities were focused on the opening of stage one of the Pyramid Creek Salt Interception Scheme. A total of 11 publications with registered ISBN numbers were produced by the MDBC, as well as a range of information brochures, posters and advisory material (see Appendix E). A complimentary copy of each new publication was sent to each of the 166 public libraries and over 20 catchment management authorities in the Murray-Darling Basin.

Whilst publications are still an effective method of disseminating information about the Murray-Darling Basin the use of the Internet and the MDBC website is increasing. The number of visitors to the MDBC website and the number of pages they viewed during 2005–06 remained steady, despite considerable work behind the scenes in upgrading servers and redevelopment of the look and feel of the website. Except for a couple of transitional months, hits hovered close to one million a month, while pages viewed averaged about 15 000 per month, and individual visits about 25 000 per month.

The most consistently sought-after areas throughout the year continued to be River Murray Water weekly reports, media releases, the online encyclopaedia (especially wildlife, mining and agriculture pages) and general information on natural resources, environmental issues and salinity. The Basin Kids part of the website was also very popular. On World Environment Day (5 June) a new section on the Basin Kids page, 'The River eNewspaper' was launched. This page publishes a selection of Basin-related stories and features a school, fish and species of wildlife each month. Other inclusions are educational puzzles, drawings and poetry.

In November 2005 a new content management system was developed for the website and was implemented in conjunction with a revised MDBC website. The new website has a more contemporary look and improved navigation; as a result of considerable testing, and has been well received. In April 2006 the education section of the website received an independent 5-star rating and was complimented on the ease of navigation and suitable content.

The Commission's monthly email newsletter continued its popularity, illustrated by a 20 per cent increase during the 2005–06 review period. The newsletter continued to reflect important developments and initiatives within the Commission and throughout the Basin. More content about catchment area activities was included in each issue resulting from closer liaison with staff of catchment management authorities. Commission meetings were also reported as a matter of course. The content of the eletter now forms the basis of the new youth eNewspaper.

The Communication Unit within the MDBC is also the central point of dissemination of information about the Murray-Darling Basin. Throughout the review period nearly 1000 requests for information and publications were received. In addition to this the MDBC has a very comprehensive and contemporary image library. In the review period over 100 image requests were received.

The Commission library continued to provide a reference and loan service to both Commission staff and external clients, supporting and complementing an information provision service within the Communication unit.

During the last twelve months, 660 items were added to the largely specialised, technical collection. This constitutes a significant increase over recent years almost doubling items indexed within a two-year period. The library catalogue has 143 library patrons on file within the Commission as well as servicing external inquiries for publications and research assistance. A total of 213 queries were logged during the twelve-month period.

The 166 public libraries within the Basin continued to receive MDBC publications and it is hoped that this liaison with public, local government, school and university libraries will be further enhanced in the near future. It is also hoped that the library can build on relationships with catchment management authorities and other like organisations within the Basin. In doing so the Commission library is able, through information dissemination, to extend the Commission profile and product to key stakeholders.

Project work continued associated with the preservation of, and enhancing access to, the Commission's image resources. The library has been instrumental in establishing an ongoing relationship with a conservator, proving invaluable in ensuring that all historical image and audiovisual material is accounted for, digitally copied and stored correctly. Currently 75 of the Commission's original watercolours, commissioned some years ago, are being cleaned and framed to facilitate both exhibition and storage.

In association with the Information Officer the library participates in the production of the weekly information service, Newscan. This free compilation of newspaper articles covering natural resource management issues is distributed to 390 subscribers who have an active interest in current affairs relating to the Basin. During the last three months both regional and major daily papers were contacted to ensure their continued participation and Commission copyright compliance. It is anticipated that this service will be reviewed within the next twelve months to ensure subscriber satisfaction with content and receipt.

Indigenous involvement in Commission activities

The Murray-Darling Basin Commission approved an Indigenous Action Plan in March 2006. The purpose of the plan is to establish a set of principles for the Commission that will guide actions and influence processes with the Murray-Darling Basin Initiative.

Under the TLM Indigenous Partnerships Project, Indigenous working groups will guide the process of Indigenous involvement at each of the icon sites and Indigenous facilitators will be resourced to work with Indigenous communities to ensure that asset environmental management plans include Indigenous perspectives and aspirations. Use and occupancy mapping will be used as the primary method of relating Indigenous spiritual, cultural, environmental, social and economic interests to the management of each icon site.

On 23 March 2006 the Murray Lower Darling Rivers Indigenous Nations (MLDRIN) and Murray-Darling Basin Commission (MDBC) took an historic step together, with the signing of a Memorandum of Understanding (MOU) that recognises shared interests and goals regarding the management of the lands and waters of the Murray and Lower Darling Rivers Basin. The agreement was signed by Mr Matthew Rigney, Chairman of MLDRIN, traditional custodians from MLDRIN and the Right Hon. Ian Sinclair AC, President of the MDBC, on behalf of the partner governments. The ceremony was held near Albury on traditional Wiradjuri country. In accordance with the MOU the Commission resources the Murray Lower Darling Rivers Indigenous Nations to provide a forum for the discussion of issues in relation to natural resource management and funds the MLDRIN Coordinator position.

Signing of the memorandum of understanding, 23 March 2006

(Photo: Jessica Weir)

Strategy 3.6

Ensure effective institutional and governance arrangements are in place

The updating and management of the Murray-Darling Basin Agreement is undertaken by the MDBC Secretariat. During 2005–06 the Secretariat coordinated an ad hoc Legislative Working Group, which included members from all partner governments.

There are four actions currently in progress in relation to amending the Agreement:

- The Murray-Darling Basin Agreement Amending Agreement – 2002 (Snowy Corporatisation) was passed through the South Australian Parliament in June 2006.
- As at 30 June 2006, partner governments are preparing two new Schedules agreed by Ministerial Council in May 2006 (Schedule E – Transferring Water Entitlements and Allocations; Schedule H – Application of Agreement to Australian Capital Territory) for tabling in their parliaments.
- The Murray-Darling Basin Agreement Amending Agreement – 2006 (River Murray Water, Queensland Indemnity & Schedule C additions) has been prepared for First Ministers' signatures. It is expected this will be tabled in the Spring Sessions of parliaments and the ACT Legislative Assembly. An amended version of the Agreement, taking into account the new Schedules and amendments under Snowy Amending Agreement, is currently being drafted for distribution to all partner governments.
- The Australian Capital Territory is undertaking, specific actions to finalise its full membership of the Agreement as required under Clause 134(5), including the introduction of this amended Agreement to the Legislative Assembly.

A new Audit and Compliance Committee was appointed with an independent Chair; Mr Paul McGrath, and met in June 2006 for the first time.

Part 4: Financial Statements

Australian National
Audit Office

INDEPENDENT AUDIT REPORT

To the Chairman of the Murray-Darling Basin Ministerial Council

Scope

The financial statements and President and Chief Executive Officer's responsibility

The financial statements comprise:

- Statement by the President and Chief Executive of the Commission;
- Income and Expenditure Statement, Balance Sheet and Statement of Cash Flows;
- Statement of Changes in Equity
- Schedules of Commitments and Contingencies; and
- Notes to and forming part of the Financial Statements

of the Murray-Darling Basin Commission for the year ended 30 June 2006.

The President and the Chief Executive Officer of the Commission are responsible for preparing the financial statements that give a true and fair view of the financial position and performance of the Commission, and that comply with accounting standards, other mandatory financial reporting requirements in Australia, and in the form required by the Minister of Finance. The President and Chief Executive Officer of the Commission are also responsible for the maintenance of adequate accounting records and internal controls that are designed to prevent and detect fraud and error, and for the accounting policies and accounting estimates inherent in the financial statements.

Audit approach

I have conducted an independent audit of the financial statements in order to express an opinion on them to you. My audit has been conducted in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing and Assurance Standards, in order to provide reasonable assurance as to whether the financial statements are free of material misstatement. The nature of an audit is influenced by factors such as the use of professional judgement, selective testing, the inherent limitations of internal control, and the availability of persuasive, rather than conclusive, evidence. Therefore, an audit cannot guarantee that all material misstatements have been detected.

GPO Box 707 CANBERRA ACT 2601
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BARTON ACT
Phone (02) 6203 7300 Fax (02) 6203 7777

While the effectiveness of management's internal controls over financial reporting was considered when determining the nature and extent of audit procedures, the audit was not designed to provide assurance on internal controls.

I have performed procedures to assess whether, in all material respects, the financial statements present fairly, in accordance with the requirements of the Finance Minister, including accounting standards and other mandatory financial reporting requirements in Australia, a view which is consistent with my understanding of the Commission's financial position, and of its financial performance and cash flows.

The audit opinion is formed on the basis of these procedures, which included:

- examining, on a test basis, information to provide evidence supporting the amounts and disclosures in the financial statements; and
- assessing the appropriateness of the accounting policies and disclosures used, and the reasonableness of significant accounting estimates made by the President and the Chief Executive Officer of the Commission.

Independence

In conducting the audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the ethical requirements of the Australian accounting profession.

Audit Opinion

In accordance with sub-clause 84(4) of the *Murray-Darling Basin Agreement* 1992, I now report that the financial statements are in agreement with the accounts and records of the Murray-Darling Basin Commission and in my opinion:

(i) the financial statements are based on proper accounts and records;

(ii) the financial statements are in agreement with those accounts and records;

(iii) the receipt, expenditure and investment of moneys, and the acquisition and disposal of assets by the Commission during the year have been in accordance with the *Murray-Darling Basin Agreement 1992*; and

(iv) the financial statements give a true and fair view, in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia of the financial position of the Murray-Darling Basin Commission as at 30 June 2006, and its financial performance and cash flows for the year then ended.

Australian National Audit Office

Michael J. Watson
Group Executive Director
Delegate of the Auditor General

Canberra

6 September 2006

MURRAY-DARLING BASIN COMMISSION
STATEMENT BY THE PRESIDENT and CHIEF EXECUTIVE

In our opinion, the attached financial statements for the year ended 30 June 2006:

(a) comply with Australian Accounting Standards and other mandatory professional requirements and have been prepared based on properly maintained financial records.

(b) give a true and fair view of the Murray-Darling Basin Commission's financial position as at 30 June 2006 and of its performance, as represented by the results of its operations and cash flows, for the financial year ended on that date.

(c) there are reasonable grounds to believe that the Commission will be able to pay its debts as and when they fall due and payable.

Rt Hon Ian Sinclair AC
President

5/9/06.
September 2006

Wendy Craik
Chief Executive

5/9/06
September 2006

Murray-Darling Basin Commission
Income and Expenditure Statement

for the year ended 30 June 2006

	Notes	2006 $'000	2005 $'000
INCOME			
Revenue			
Contributions	3A	88,535	91,244
Grants from Australian Government	3B	500,000	–
Other income	3C	1,901	1,808
Interest	3D	2,160	2,110
TOTAL INCOME		592,596	95,162
EXPENSES			
Employees	4A	11,998	10,202
Suppliers	4B	68,254	69,141
Depreciation and amortisation	4C	15,932	22,565
Loss on sale of assets	3E	8	11
Borrowing costs expense	5	9	16
TOTAL EXPENSES		96,201	101,935
Share of operating surplus/(deficit) from joint ventures	3F	(859)	–
OPERATING RESULT		495,536	(6,773)
Net credit to asset revaluation reserve	11A	343,074	–
Total changes in equity other than those resulting from transactions with owners as owners		838,610	(6,773)

Murray-Darling Basin Commission
Balance Sheet

as at 30 June 2006

	Notes	2006 $'000	2005 $'000
ASSETS			
Financial assets			
Cash and cash equivalents	6A	**530,835**	40,199
Receivables	6B	**2,797**	7,380
Other financial assets	6C	**824**	824
Total financial assets		**534,456**	48,403
Non-financial assets			
Infrastructure assets	7A	**1,691,717**	1,345,907
Property, plant & equipment	7B	**866**	1,002
Intangibles	7C	**3,694**	1,720
Inventories	7F	**184**	203
Leasehold improvements	7D	**76**	153
Other non-financial assets	7G	**171**	150
Investment in joint venture entity	7H	**1,886**	517
Total non-financial assets		**1,698,594**	1,349,652
Total Assets		**2,233,050**	1,398,055
LIABILITIES			
Interest bearing liabilities			
Leases	8	**95**	133
Total interest bearing liabilities		**95**	133
Provisions			
Employees	9	**2,000**	1,632
Other	9	**–**	104
Total provisions		**2,000**	1,736
Payables			
Goods and Services	10A	**22,832**	26,855
Revenue received in advance	10B	**4,882**	4,700
Total payables		**27,714**	31,555
Total Liabilities		**29,809**	33,424
NET ASSETS		**2,203,241**	1,364,631
EQUITY			
Contributions by Contracting Governments	11A	**3,144**	3,144
Asset Revaluation Reserve	11A	**491,081**	148,007
Retained Surpluses	11A	**1,709,016**	1,213,480
TOTAL EQUITY		**2,203,241**	1,364,631

Murray-Darling Basin Commission
Balance Sheet (continued)

as at 30 June 2006

Current assets	**534,456**	48,403
Non-current assets	**1,698,594**	1,349,652
Current liabilities	**29,340**	32,597
Non-current liabilities	**469**	827

The above statement should be read in conjunction with the accompanying notes.

Murray-Darling Basin Commission
Statement of Cash Flows

for the year ended 30 June 2006

	Notes	2006 $'000	2005 $'000
OPERATING ACTIVITIES			
Cash received			
Contributions from Governments		**87,303**	91,449
Grants from Australian Government		**500,000**	–
Other income		**1,827**	1,714
Interest		**1,792**	2,156
Net GST received from Australian Taxation Office		**8,867**	8,088
Total cash received		**599,789**	103,407
Cash used			
Employees		**11,747**	10,172
Suppliers		**74,350**	77,177
Borrowing costs		**9**	16
Investment in joint venture entity		**2,229**	–
Total cash used		**88,335**	87,365
Net cash from operating activities	12	**511,454**	16,042
INVESTING ACTIVITIES			
Cash received			
Proceeds from sales of property, plant and equipment		**138**	94
Proceeds from Investments		**–**	–
Total cash received		**138**	94
Cash used			
Purchase of infrastructure assets		**18,031**	17,728
Purchase of property, plant and equipment		**783**	721
Purchase of Intangible assets		**2,096**	–
Total cash used		**20,910**	18,449
Net cash (used by) investing activities		**(20,772)**	(18,355)
FINANCING ACTIVITIES			
Cash used			
Repayment of lease debt		**(46)**	(71)
Total cash used		**(46)**	(–71)
Net cash used by financing activities		**(46)**	(–71)
Net increase / (decrease) in cash held		**490,636**	(2,384)
Cash at the beginning of the reporting period		**40,199**	42,583
Cash at the end of the reporting period	6A	**530,835**	40,199

Murray-Darling Basin Commission
Statement of Changes in Equity

for the year ended 30 June 2006

	Accumulated Results		Asset Revaluation Reserve		Contributed Equity/Capital		Total Equity	
	2006	2005	**2006**	2005	**2006**	2005	**2006**	2005
	$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000
Opening balance as at 1 July	**1,213,480**	1,220,253	**148,007**	148,007	**3,144**	3,144	**1,364,631**	1,371,404
Income and Expense								
Revaluation adjustment	**–**	–	**343,074**	–	**–**	–	**343,074**	–
	1,213,480	1,220,253	**491,081**	148,007	**3,144**	3,144	**1,707,705**	1,371,404
Net Operating Results	**495,536**	(6,773)	**–**	–	**–**	–	**495,536**	(6,773)
Total income and expenses	**1,709,016**	1,213,480	**491,081**	148,007	**3,144**	3,144	**2,203,241**	1,364,631
Transactions with Owners								
Distributions to owners								
Returns on Capital	**–**	–	**–**	–	**–**	–	**–**	–
Dividends	**–**	–	**–**	–	**–**	–	**–**	–
Contributions by Owners								
Appropriation (equity injection)	**–**	–	**–**	–	**–**	–	**–**	–
Restructuring	**–**	–	**–**	–	**–**	–	**–**	–
Sub-total Transactions with Owners	**1,709,016**	1,213,480	**491,081**	148,007	**3,144**	3,144	**2,203,241**	1,364,631
Transfers between equity components								
Closing balance at 30 June	**1,709,016**	1,213,480	**491,081**	148,007	**3,144**	3,144	**2,203,241**	1,364,631

The above statement should be read in conjunction with the accompanying notes.

Murray-Darling Basin Commission
Schedule of Contingencies

as at 30 June 2006

	2006 $'000	2005 $'000
Contingent liabilities		
Claims for damages / costs	–	–
Contingent assets		
Claims for damages / costs	–	–
Net contingent liabilities	–	–

Details of each class of contingent liabilities and assets, including those not included above because they cannot be quantified or are considered remote, are disclosed in Note 13: Contingent Liabilities and Assets.

Murray-Darling Basin Commission
Schedule of Commitments

as at 30 June 2006

		2006 $'000	2005 $'000
BY TYPE			
Capital commitments			
Infrastructure, property, plant and equipment	(a)	–	–
Total capital commitments		–	–
Other commitments			
Operating leases		681	1,469
Other commitments		20,479	10,077
Total other commitments		21,160	11,546
Commitments receivable		(1,924)	(1,155)
Net commitments by type		19,236	10,391
BY MATURITY			
Operating lease commitments			
One year or less		672	964
From one to five years		9	505
Over five years		–	-
Total operating lease commitments		681	1,469
Capital commitments			
One year or less		–	–
Total capital commitments		–	–
Other commitments			
One year or less		11,415	5,074
From one to five years		8,564	5,003
Over five years		500	–
Total other commitments		20,479	10,077
Commitments receivable		(1,924)	(1,155)
Net commitments by maturity		19,236	10,391

(a) All commitments are stated inclusive of Goods and Service Tax where relevant.

Construction activities are performed by the State Constructing Authorities on behalf of the Murray-Darling Basin Commission.

The Commission does not have formal contracts with the State Construction Authorities who carry out work on their behalf. All construction contracts are between the construction authorities and the various contractors that they engage to complete the work.

Murray-Darling Basin Commission
Schedule of Commitments

as at 30 June 2006

Operating leases are effectively non-cancellable and comprise:

Leases for office accommodation

Lease payments are subject to annual increases in accordance with upwards movements in the Consumer Price Index. The lease may be renewed for up to five years at MDBC's option, following a once-off adjustment of rentals to current market levels. Lease terminates on 28 February 2007.

Lease for office accommodation fit-out

An additional rent is paid on the office accommodation for the fit-out of the office premises. Fit-out rent is a set amount - paid monthly - each year for the continuing term of the lease. The arrangement terminates on 28 February 2007.

Lease for computer equipment

Lease payments are made for the supply of office computer equipment for a period of three years. Computer equipment rent is a set amount each year for the term of the lease. All leased equipment remains the property of the lessor.

Murray-Darling Basin Commission
Notes to and forming part of the Financial Statements

for the year ended 30 June 2006

Notes to and forming part of the Financial Statements

Note 1: Summary of Significant Accounting Policies

1.1 Objective of Murray–Darling Basin Commission

The Murray–Darling Basin Commission (MDBC) is the executive arm of the Murray–Darling Basin Ministerial Council. The Council is a venture of six governments – New South Wales, Victoria, South Australia, Queensland, the Australian Capital Territory and the Australian Government. The venture is enabled by the Murray–Darling Basin Agreement 1992.

The purpose of the venture, as stated in the enabling Agreement, is to:

Promote and coordinate effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Murray–Darling Basin.

1.2 Basis of Preparation of the Financial Statements

The Financial Statements are required by Clause 84 of the Murray–Darling Basin Agreement and are a general purpose financial report.

The continued existence of the MDBC in its present form and with its present programs is dependent on continuing Contributions from the venture participants.

The Financial Statements have been prepared in accordance with:

- Australian Accounting Standards and Accounting Interpretations issued by the Australian Accounting Standards Board; and
- Consensus Views of the Urgent Issues Group.

This is the first financial report prepared under Australian Equivalents to International Financial Reporting Standards (AEIFRS). The impacts of adopting AEIFRS are disclosed in Note 2.

The Income and Expenditure Statement, Balance Sheet and Statement of Changes in Equity have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets which, as noted, are held at valuation. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial report is presented in Australian dollars and values are rounded to the nearest thousand dollars unless disclosure of the full amount is specifically required.

Unless alternative treatment is specifically required by an accounting standard, assets and liabilities are recognised in the Balance Sheet when and only when it is probable that future economic benefits will flow and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under agreements equally proportionately underperformed are not recognised unless required by an Accounting Standard. Liabilities and assets that are unrecognised are reported in the Schedule of Commitments and the Schedule of Contingencies (other than unquantifiable or remote contingencies, which are reported at Note 13).

Unless alternate treatment is specifically required by an accounting standard, revenues and expenses are recognised in the Income and Expenditure Statement when and only when the flow or consumption or loss of economic benefits has occurred and can be reliably measured.

1.3 Significant Accounting Judgements and Estimates

In the process of applying the accounting policies listed in this note, the Murray–Darling Basin Commission has made the following judgements that have the most significant impact on the amounts recorded in the financial statements

Note 1: Summary of Significant Accounting Policies *(continued)*

* The Commission's infrastructure assets are valued based on depreciated replacement cost basis as determined by by an independent valuer. In some instances, the Commission's infrastructure assets are purpose built and may in fact realise more or less in the market.

No accounting assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets or liabilities within the next accounting period.

1.4 Statement of Compliance

The financial report complies with the Australian Accounting Standards, which include Australian Equivalent to International Financial Reporting Standards (AEIFRS).

Australian Accounting Standards require the Commission to disclose Australian Accounting Standards that have not been applied, for standards that have been issued but are not yet effective.

The AASB has issued amendments to existing standards, these amendments are denoted by year and then number, for example 2005–1 indicates amendment 1 issued in 2005.

The table below illustrates standards and amendments that will become effective for the Murray–Darling Basin Commission in the future. The nature of the impending changes within the table, has been abbreviated and users should consult the full version available on the AASB's website to identify the full impact of the change. The expected impact on the financial report of adoption of these standards is based on the Commission's initial assessment at this date, but may change. The Commission intends to adopt all of the standards upon their application date.

Title	Standard Affected	Application Date*	Nature of Impending Change	Impact expected on financial report
2005–1	AASB 139	1–Jan–06	Amends hedging requirements for foreign currency risk of a highly probable intra–group transaction	No expected impact
2005–4	AASB 139 AASB 132 AASB 1 AASB 1023 AASB 1038	1–Jan–06	Amends AASB 139, AASB 1023 and AASB 1038 to restrict the option to fair value through profit or loss and makes consequential amendments to AASB 1 and AASB 132	No expected impact
2005–5	AASB 1 AASB 139	1–Jan–06	Amends AASB 1 to allow an entity to determine whether an arrangement is, or contains, a lease. Amends AASB 139 to scope out a contractual right to receive reimbursement (in accordance with AASB 137) in the form of cash.	No expected impact
2005–6	AASB 3	1–Jan–06	Amends the scope to exclude business combinations involving entities or businesses under common control.	No expected impact

Note 1: Summary of Significant Accounting Policies *(continued)*

Title	Standard Affected	Application Date*	Nature of Impending Change	Impact expected on financial report
2005–9	AASB 4 AASB 1023 AASB 139 AASB 132		Amended standards in regards to financial guarantee contracts	No expected impact
2005–10	AASB 132 AASB 101 AASB 114 AASB 117 AASB 133 AASB 139 AASB 1 AASB 4 AASB 1023 AASB 1038	1–Jan–07	Amended requirements subsequent to the issuing of AASB 7	No expected impact
2006–1	AASB 121	31–Dec–06	Changes in requirements for net investments in foreign subsidiaries depending on denominated currency	No expected impact
	AASB 7 Financial Instruments: Disclosure	1–Jan–07	Revise the disclosure requirements for financial instruments from AASB 132 requirements	No expected impact

* Application date is for annual reporting periods beginning on or after the date shown.

1.5 Revenue recognition

Revenue from Contributing Governments

Contributions received from partner governments are recognised as revenue in the year in which the Commission obtains control of the contributions. Any unexpended balance of the contributions which have been approved by the Ministerial Council to be carried forward, in accordance with Section 75 of the Murray–Darling Basin Agreement, are treated as revenue in advance.

Contributions from the Australian Government

Grants received from the Australian government are recognised as revenue in the year in which the Commission obtains control of the grants or the right to receive the grant in accordance with the requirements of AASB 1004.

Other Revenue

Revenue form sale of goods is recognised when

- The risks and rewards of ownership have transferred to the buyer;

Note 1: Summary of Significant Accounting Policies *(continued)*

- The seller retains neither managerial involvement nor effective control over the goods;
- The revenue and costs incurred can be reliably measured; and
- It is probable that the economic benefits associated with the transaction will flow to the entity.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is recognised when

- The amount of revenue, stage of completion and transaction costs incurred can be reliably measured; and
- The probable economic benefits with the transaction will flow to the entity.

The stage of completion of contracts at reporting date is determined by reference to the proportion of costs incurred to date bear to the estimated total costs of the transaction.

Interest revenue is recognised using the effective interest method as set out in AASB 139.

Revenue from disposal of non–current assets is recognised when control of the asset has passed to the buyer.

1.6 Receivables

Receivables for items of other income are recognised at the nominal amounts due. No provision for bad and doubtful debts has been made in the current year. Collectability of debts is reviewed at balance date. Provisions are made when collectability of the debt is judged to be less rather than more likely.

1.7 Transactions with the Owners as Owners

Equity injections

Contributions from partner governments which are designated as 'equity injections' are recognised directly in Contributed Equity in that year.

1.8 Employee Benefits

The MDBC has early adopted AASB 119 Employee Benefits as issued in December 2004.

Liabilities for services rendered by employees are recognised at the reporting date to the extent that they have not been settled.

Liabilities for "short–term employee benefits" (as defined in AASB 119) and termination benefits due within twelve months are measured at their nominal amounts.

The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

All other employee benefit liabilities are measured as the present value of the estimated future cash flows to be made in respect of services provided by employees up to the reporting date.

Long Service Leave

The liability for long service leave expected to be settled within 12 months of the reporting date is recognised in the provision for employee benefits and is measured at the amounts expected to be paid when the liabilities are settled. The liability for long service leave expected to be settled more than 12 months from the reporting date is recognised in the provision for employee benefits and measured

Note 1: Summary of Significant Accounting Policies *(continued)*

at the present value of expected future payments to be made in respect of services provided by the employees up to the reporting date. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Estimates of employee departures is based on an Australian Government Actuary report dated June 2004 and Finance Brief 27 (2005–06).

Expected future payments are discounted using market yields at the reporting date on national government bonds with terms of maturity that match as close as possible the estimated future cash outflows.

The leave liabilities are calculated on the basis of employees' remuneration, including the Agency's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

Superannuation

Staff of the MDBC are members of a range of superannuation funds

Commonwealth Superannuation Scheme (CSS), Public Sector Superannuation Scheme (PSS) or the PSS accumulation plan (PSSap).

The CSS and PSS are defined benefit schemes for the Commonwealth. The PSSap is a defined contribution scheme.

The liability for defined benefits are recognised in the Financial Statements of the Australian Government and are settled by the Australian Government in due course. Murray–Darling Basin Commission makes employer contributions to the Australian Government at rates determined by an actuary to be sufficient to meet the cost to the Government of the superannuation entitlements of the Commission's employees.

From 1 July 2005, new employees are eligible to join the PSSap scheme.

South Australian Superannuation Funds – Super SA Pension and Lump Sum Schemes

The superannuation liability of the Murray–Darling Basin Commission in respect of the above funds is determined by the SA Superannuation Act 1988 and the "Arrangements between the South Australian Superannuation Board and the River Murray Commission" dated 22 August 1984.

The SA Superannuation Scheme, for the purposes of reporting by the Commission, is treated as a "Multi–employer plan" and under Article (c)(i) of the arrangement the Commission is liable, when a benefit becomes payable, for a portion of those benefits as determined by the Public Actuary.

The Commission is required to make contributions to the South Australian Treasury. As a result of these contributions, the benefits payable will be paid by the SA Treasurer.

Therefore the Commission accounts for its superannuation liability as if the SA Superannuation Scheme is a defined contribution plan.

Future employer contributions are based on the new contribution rates set from time to time following actuarial reviews of the fund.

New South Wales Superannuation Funds – State Super – SAS Trustee Corporation – SSS, SANCS and SAF.

Superannuation liability of the Murray–Darling Basin Commission in respect of the above funds is determined by the Superannuation Act 1916, the State Authorities Non – Contributory Superannuation Act 1987 and the State Authorities Superannuation Act 1987.

Note 1: Summary of Significant Accounting Policies *(continued)*

The Murray–Darling Basin Commission is responsible for funding the members benefits over the life of the member.

To that end the Commission makes contributions as advised to the State Super SAS Trustee Corporation on behalf of the members. The contributions are determined from time to time by actuarial review.

All benefits are paid by the SAS Trustee Corporation to the employee.

The Commission therefore accounts for the superannuation liability in regard to these funds as a defined contribution plan.

Others

The Commission also contributes to a number of complying funds to discharge the Commission's liability in regard to individual employees and the Superannuation Guarantee (Administration) Act 1992 as well to facilitate the salary sacrifice options of employees.

The liability for superannuation recognised at 30 June represents outstanding contributions for the final fortnight of the year.

1.9 Leases

A distinction is made between finance leases and operating leases. Finance leases effectively transfer from the lessor to the lessee substantially all the risks and benefits incidental to ownership of leased non–current assets. In operating leases, the lessor effectively retains substantially all such risks and benefits.

Where a non–current asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the beginning of the lease term and a liability recognised at the same time and for the same amount. The discount rate used is the interest rate implicit in the lease.

Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a basis which is representative of the pattern of benefits derived from the leased assets.

Lease incentives taking the form of 'free' leasehold improvements and rent holidays are recognised as lease liabilities. These liabilities are reduced by allocating lease payments between rental expense and reduction of the liability.

1.10 Assets held by Constructing Authorities acquired with Commission funds

Infrastructure assets used for the storage and distribution of bulk water and for related activities have been constructed with funds provided by the Commission. These assets are located in the States and operated by employees of State Government agencies. The state government agencies invoice the Commission for all expenses incurred in the operation, maintenance and renewal of these assets.

The Murray–Darling Basin Agreement requires each Constructing Authority to account to the Commission for all monies received from the Commission under the Agreement. The Commission must cause a list to be kept of both the assets it acquires and the assets Constructing Authorities acquire with funds made available by the Commission. To meet these requirements, all infrastructure assets are included in asset registers held by the Commission and accounted for in the books of the Commission as assets of the Commission.

Note 1: Summary of Significant Accounting Policies *(continued)*

1.11 Cash

For purposes of the statement of cash flows, cash includes cash at bank and short term deposits held with financial institutions which have short periods to maturity, can be readily converted into cash and are subject to an insignificant risk of changes in value, net of any bank overdrafts.

1.12 Financial Risk Management

The MDBC's activities expose it to normal commercial financial risk. As a result of the Commission's business and internal policies the Commission's exposure to credit, liquidity and cashflow, interest rate risk is considered to be low.

1.13 Impairment of Financial Assets

MDBC has applied the option available under AASB 1 of adopting AASB 132 and 139 from 1 July 2004 rather than 1 July 2005.

Financial assets are assessed for impairment at each balance date.

Financial Assets held at Amortised Cost

If there is objective evidence that an impairment loss has been incurred for loans and receivables or held to maturity investments held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cashflows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in statement of income and expenditure.

Financial Assets held at Cost

If there is objective evidence that an impairment loss has been incurred on an unquoted equity instrument that is not carried at fair value because it cannot be reliably measured, or a derivative asset that is linked and must be settled by delivery of such an unquoted equity instrument, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cashflows discounted at the current market rate for similar assets.

Comparative Year

The above policy is not applied to the comparative year. For receivables, amounts were recognised and carried at original invoice amount less a provision for impaired debts based on an estimate made when collection of the full amount was no longer probable. No bad debts were written off in the current year.

Other financial assets carried at cost which were not held to generate net cash inflows, were assessed for indicators of impairment. Where such indicators were found to exist, the recoverable amount of the assets was estimated and compared to the assets carrying value and, if less, reduced to the carrying amount. No reductions were made in the current year due to an impairment loss.

1.14 Trade creditors

Trade creditors and accruals are recognised at their nominal amounts, being the amounts that are expected to be settled. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

Note 1: Summary of Significant Accounting Policies *(continued)*

1.15 Contingent liabilities and Contingent Assets

Contingent liabilities and assets are not recognised in the Balance Sheet but are disclosed in the relevant schedules and notes. They may arise from uncertainty as to the existence of a liability or asset, or represent an existing liability or asset in respect of which settlement is not probable or the amount cannot be reliably measured. Remote contingencies are part of this disclosure. Where settlement becomes probable, a liability or asset is recognised. A liability or asset is recognised when its existence is confirmed by a future event, settlement becomes probable (virtually certain for assets) or reliable measurement becomes possible.

1.16 Acquisition of Assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are measured initially at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and revenues at their fair value at the date of acquisition.

1.17 Infrastructure, Property, Plant and Equipment (P,P&E)

Asset Recognition Threshold

Purchases of infrastructure, property, plant and equipment are recognised initially at cost in the Balance Sheet, except for purchases costing less than $2,000 in which case they are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

The Initial Cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located. This is particularly relevant to 'make good' provisions in property leases taken up by the Commission where there exists an obligation to restore the property to its original condition. These costs are included in the value of the Commission's leasehold improvements with a corresponding provisions for the 'make good' taken up.

Infrastructure Assets - At fair value

Apart from the newly constructed infrastructure assets recognised at cost in the period between independent valuations, infrastructure assets are carried at valuation, and are revalued with sufficient frequency such that the carrying value of each asset is not materially different, at reporting date, from its fair value. Fair value is measured for infrastructure assets on the basis of depreciated replacement cost.

The current valuation was completed in respect of the year ended 30 June 2006 by qualified independent valuers, SMEC Australia Pty Ltd. Independent valuations are carried out on a three year cycle.

Asset values are regularly monitored to ensure that there is no material difference between the carrying value and the asset's fair value. Revaluation increment is credited to equity under the heading of asset revaluations reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised through the Statement of Income and Expenditure. Revaluation decrements for a class of assets are recognised directly through the Statement of Income and Expenditure except to the extent that they reverse a previous revaluation increment for that class. Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset is restated to the revalued amount.

Note 1: Summary of Significant Accounting Policies *(continued)*

Property, Plant and Equipment (P,P & E) - At cost

Items of property, plant and equipment are stated at cost less accumulated depreciation and impairment losses.

Depreciation

Depreciable property, plant and equipment assets are written–off to their estimated residual values over their estimated useful lives to the Commission using, in all cases, the straight–line method of depreciation. Leasehold improvements are depreciated on a straight–line basis over the lesser of the estimated useful life of the improvements or the unexpired period of the lease.

Depreciation rates (useful lives), residual values and methods are reviewed annually and necessary adjustments are recognised in the current, or current and future reporting periods as appropriate. Residual values are re–estimated for a change in prices only when assets are revalued.

Depreciation rates applying to each class of depreciable assets are based on the following useful lives.

	2006		2005
	Years	% – pa	
Motor Vehicles	3	33%	6.67 years
Computers and IT equipment	3	33%	3 years
Office Equipment	5.88	17%	5.88 years
Furniture, Fixtures and Fittings	7.69	13%	7.69 years
Infrastructure Assets	Up to 400 years based on an assessment of the useful economic life		

The aggregate amount of depreciation allocated for each class of asset during the reporting period is disclosed in Note 4C.

1.18 Impairment of Non–current Assets

All assets are assessed for impairment at 30 June 2006. Where evidence of impairment exists, the asset's recoverable amount is estimated and an impairment adjustment made if the assets recoverable amount is less than its carrying value.

The recoverable amount of an asset is the higher of its fair value *less costs to sell* and its *value in use*. *Value in use* is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if MDBC were deprived of the asset, its *value in use* is taken to be its depreciated replacement cost.

No indicators of impairment were found for assets at fair value.

1.19 Inventories

Inventories comprise publications and videos held for sale and are valued at the lower of cost and net realisable value.

Note 1: Summary of Significant Accounting Policies *(continued)*

1.20 Assets Under Construction

Assets under construction are carried at cost and capitalised when completed and ready for use. Costs comprise of the cost of materials, direct labour, the initial estimate where relevant of the costs of dismantling and removing the items and restoring the site on which they are located and appropriate proportion of production overheads.

1.21 Joint Venture Entities

Joint ventures are those entities over whose activities the Commission has joint control, established by contractual agreement.

In the financial statements, investment in jointly controlled entities are accounted for using equity accounting principles. Investment in joint venture entitles are carried at the lower of the equity accounted amount and recoverable amount. The Commission's share of the jointly controlled entities operating surplus or deficit is recognised in the Income Statement from the date joint control commenced until the date joint control ceases. Other movement in reserves are recognised directly in the Commission's reserves.

Joint ventures are assessed annually to ensure that the market or fair value of the investment in the joint venture is appropriately stated.

1.22 Intangibles

Software

Computer software acquired from external suppliers is capitalised at cost plus installation and establishment costs. Annual maintenance costs are expensed directly to the Statement of Income and Expenditure.

Software is amortised over a maximum three year period.

Flooding Easement

Flooding easements acquired by the Commission from landholders are capitalised – on acquisition – at cost.

As the easements are a perpetual right, the easements are not amortised. The Commission assesses whether the flooding easement is impaired at least annually in accordance with accounting policy 1.18.

1.23 Taxation

The MDBC is exempt from all forms of taxation except fringe benefits tax (FBT) and the goods and services tax (GST)

Revenue, expenses and assets are recognised net of GST:

- except where the amount of GST incurred is not recoverable from the Australian Taxation Office ; and
- except for receivables and payables.

Note 2: The impact of the transition to AEIFRS from previous GAAP Reporting Standards from 1 July 2005

Reconciliation of total equity as presented under previous GAAP to that under AEIFRS

	2005 $'000	2004 $'000
Total equity under previous GAAP	1,363,035	1,371,404
Adjustments to retained earnings		
Intangibles – assets previously expensed[1]	1,596	–
Total equity translated to AEIFRS	$1,364,631	$1,371,404

Reconciliation of profit or loss as presented under previous AGAAP to AEIFRS	
Prior year loss as previously reported	**(8,369)**
Adjustments – Intangibles[1]	1,596
Prior year loss translated to AEIFRS	**($6,773)**

The cashflow statement presented under the previous AGAAP is equivalent to that prepared under AEIFRS.

1. Flooding easements acquired in the year ended 30 June 2005 were expensed as operating expenditure. These amounts are now recognised as Intangibles in the Commission's Balance Sheet

	2006 $'000	2005 $'000

Note 3: Operating Revenues

Note 3A: Revenues from Venture Participants

		2006 $'000	2005 $'000
Australian Government		**16,000**	16,484
New South Wales		**26,340**	27,641
Victoria		**24,615**	25,820
South Australia		**19,328**	20,359
Queensland		**780**	875
Australian Capital Territory		**240**	270
Add	revenue recognised from prior year	**4,636**	4,431
Less	revenue carried to forward year	**(3,404)**	(4,636)
Total revenues from Governments		**88,535**	91,244

Note 3B: Grant from Australian Government

At Ministerial Council Meeting No 40, held on 19 May 2006, the Australian Government advised it planned to provide the Murray–Darling Basin Commission with an additional $500m to:

- facilitate the timely implementation of pre–existing decisions of both the Council and Commission, and
- support the expanded Environmental Works and Measures Program to ensure that best use is made of water recovered from the Living Murray Initiative
- accelerate water recovery measures included under the Living Murray Initiative

The funds were provided through the the Department of Agriculture, Fisheries and Forestry (DAFF) on 28 June 2006 and separately identified in the Commission's financial records.

As the Commission has obtained control of the grants or the right to receive the grant on 28 June 2006, it is recognised as income in accordance with measurement and recognition requirements of the accounting standard for not–for–profit entity – AASB 1004.

Note 3C: Other income

	2006 $'000	2005 $'000
Hydro generation	**790**	1,273
Salinity costs recovery	**240**	–
Land and cottage rents	**568**	519
Sale of publications and videos	**3**	16
Sale of water	**34**	–
Contributions to programs – external	**193**	–
Conference income	**11**	–
Other	**62**	–
Total other income	**1,901**	1,808

Note 3D: Interest Revenue

	2006 $'000	2005 $'000
Interest on deposits	**2,160**	2,110

	Notes	2006 $'000	2005 $'000

Note 3: Operating Revenues *(continued)*

Note 3E: Net Gains from Sale of Assets

Motor Vehicles:			
Proceeds from disposal		114	94
Net book value of assets disposed		(137)	(105)
Net (loss) from disposal of motor vehicles		(23)	(11)
Office Equipment:			
Proceeds from disposal		9	–
Net book value of assets disposed		(9)	–
Net (loss) from disposal of office equipment		–	–
Computers and IT equipment:			
Proceeds from disposal		15	–
Net book value of assets disposed		–	–
Net (loss) from disposal of computers and IT equipment		15	–
Total proceeds from disposal		138	94
Total value of assets disposed		(146)	(105)
Total net (loss) from disposal of assets		(8)	(11)

Note 3F: Joint venture – share of operating surplus/(deficit)

Share of joint venture entities' operating surplus/(deficit)	7H	(859)	–

Note 4: Operating Expenses

Note 4A: Employee Expense

Wages and Salaries	9,302	8,391
Superannuation	1,570	980
Separation and redundancy	289	–
Recruitment	220	283
Training and development	241	176
Salary oncosts	223	217
FBT	99	102
Other	54	53
Total employee benefits expense	11,998	10,202

	2006 $'000	2005 $'000

Note 4: Operating Expenses *(continued)*

Note 4B: Supplier Expenses

Expenditure by State Constructing Authorities	**35,711**	42,118
External service providors	**27,672**	21,292
Supply of goods and services	**4,044**	5,027
Workers compensation	**81**	44
Operating lease rentals	**746**	660
Total supplier expenses	**68,254**	69,141

Note 4C: Depreciation and Amortisation

i) Depreciation		
Infrastructure, property, plant and equipment	**15,856**	22,486
Total depreciation	**15,856**	22,486
ii) Amortisation		
Leasehold Improvements	**76**	79
Total amortisation	**76**	79
Total depreciation and amortisation	**15,932**	22,565

The aggregate amounts of depreciation or amortisation expensed during the reporting period for each class of depreciable asset are as follows:

Motor Vehicles	**130**	14
Office Equipment	**33**	91
Computers	**280**	282
Furniture, fixtures and fittings	**19**	18
Infrastructure Assets	**15,294**	22,081
Leasehold improvements	**76**	79
Software	**100**	–
Total depreciation and amortisation	**15,932**	22,565

Note 5: Borrowing Costs Expense

Leases	**9**	16
Total borrowing costs expense	**9**	16

	2006 $'000	2005 $'000

Note 6: Financial Assets

Note 6A: Cash and cash equivalents

Cash at bank	**5,835**	10,199
Cash on hand	**–**	–
Investments – Term Deposits	**525,000**	30,000
Total cash and cash equivalents	**530,835**	40,199

The investment in term deposits can be analysed as follows

Funds provided by the Australian Government 2005–06	**500,000**	–
Other Cash on Deposit	**25,000**	30,000
	525,000	30,000

The Australian Government Funds represents the unexpended balance of the Grant from the Australian Government received by the Commission on 28 June 2006. (Refer to Note 3B for further detail)

Note 6B: Receivables

Other income	**655**	4,455
GST receivable from the Australian Taxation Office	**1,312**	2,802
Accrued interest	**491**	123
Accrued debtors	**339**	–
Total receivable (net)	**2,797**	7,380
Receivables is represented by:		
Current	**2,797**	7,380
Non–current	**–**	–
Total receivables (net)	**2,797**	7,380
Receivables (gross) are aged as follows:		
Not overdue	**2,797**	7,380
Overdue by less than:		
Less than 30 days	**–**	–
30 to 60 days	**–**	–
60 to 90 days	**–**	–
More than 90 days	**–**	–
	–	–
Total receivables (gross)	**2,797**	7,380

Note 6C: Other financial assets

Advances to Constructing Authorities	**824**	824
Total other financial assets	**824**	824

	2006 $'000	2005 $'000
Note 7: Non-Financial Assets		
Note 7A: Infrastructure Assets		
at 2005–2006 valuation (fair value)	1,681,195	1,940,872
– accumulated depreciation		(613,253)
	1,681,195	1,327,619
Assets under construction – at cost	10,522	18,288
Total Infrastructure Assets (non–current)	**1,691,717**	1,345,907

A revaluation was undertaken of the Commission's Infrastructure assets based on depreciated replacement cost basis for the year ended 30 June 2006. The revaluation was performed by qualified independent valuers, SMEC Australia Pty Ltd.

In accordance with AASB 116 Clause 35 (b) the accumulated depreciation at the date of the revaluation was eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset.

Note 7B: Property Plant and Equipment

Motor Vehicles		
– at cost	**384**	434
– accumulated depreciation	**(134)**	(64)
	250	370
Furniture, Fittings and Office Equipment		
– at cost	**821**	973
– accumulated depreciation	**(515)**	(686)
	306	287
Computers & IT equipment		
– at cost	**1,744**	1,508
– accumulated depreciation	**(1,434)**	(1,163)
	310	345
Total Plant and Equipment (non–current)	**866**	1,002

	2006 $'000	2005 $'000
Note 7: Non-Financial Assets *(continued)*		
Note 7C: Intangibles		
Computer Software		
– at cost	**339**	124
– accumulated depreciation	**(122)**	–
	217	124
Flooding Easements		
– at cost	**3,477**	1,596
– accumulated depreciation	**–**	–
	3,477	1,596
Total Intangibles	**3,694**	1,720
Note 7D: Leasehold improvements		
– at cost	**509**	509
– accumulated amortisation	**(433)**	(356)
Total leasehold improvements	**76**	153

Notes to and forming part of the Financial Statements

Note 7: Non-Financial Assets *(continued)*

Note 7E: Analysis of Infrastructure, Property, Plant and Equipment

Table A – Reconciliation of the opening and closing balances of infrastructure, property, plant and equipment

Item	Infrastructure	Construction work in progress	Total Infrastructure & Construction In Progress	Motor Vehicles	Furniture, fittings & office equipment	Computer and IT equipment	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
As at 1 July 2005							
Gross book value	1,940,872	18,288	1,959,160	434	973	1,508	1,962,075
Accumulated depreciation / amortisation	(613,253)	–	(613,253)	(64)	(686)	(1,163)	(615,166)
Net book value	**1,327,619**	**18,288**	**1,345,907**	**370**	**287**	**345**	**1,346,909**
Additions:							
by Purchase:							
Purchased	2,565	–	2,565	146	203	434	3,348
Constructed	–	15,466	15,466	–	–	–	15,466
Total by purchase	2,565	15,466	18,031	146	203	434	18,814
Assets recognised for the first time							
Construction projects commissioned during the year	23,232	–	23,232	–	–	–	23,232
Construction projects transferred to Infrastructure	–	(23,232)	(23,232)	–	–	–	(23,232)
Gross revaluation increment	576,677	–	576,677	–	–	–	576,677
Depreciation / amortisation expense	(15,295)	–	(15,295)	(130)	(52)	(280)	(15,757)
Accumulated depreciation revaluation increment	(233,603)	–	(233,603)	–	–	–	(233,603)
Adjustment to previous years' depreciation/Disposal write back	–	–	–	60	223	9	292

Notes to and forming part of the Financial Statements

Note 7: Non-Financial Assets *(continued)*

Note 7E: Analysis of Infrastructure, Property, Plant and Equipment *(continued)*

Table A – Reconciliation of the opening and closing balances of infrastructure, property, plant and equipment (continued)

Item	Infrastructure	Construction work in progress	Total Infrastructure & Construction In Progress	Motor Vehicles	Furniture, fittings & office equipment	Computer and IT equipment	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Disposals	–	–	–	(196)	(355)	(198)	(749)
As at 30 June 2006							
Gross book value	2,543,346	10,522	2,553,868	384	821	1,744	2,556,817
Accumulated depreciation / amortisation	(862,151)	–	(862,151)	(134)	(515)	(1,434)	(864,234)
Net book value	**1,681,195**	**10,522**	**1,691,717**	**250**	**306**	**310**	**1,692,583**

	2006 $'000	2005 $'000

Note 7: Non-Financial Assets *(continued)*

Note 7F: Inventories

Finished goods (cost)	**184**	203
Total Inventories held for sale	**184**	203

All inventories are current assets.

Note 7G: Other Non–Financial Assets

Prepayments	**171**	150

All other non–financial assets are current assets.

Note 7H: Investment in joint venture entity

Joint venture	Opening Balance $'000	Contribution $'000	Profit/ (Loss) $'000	Closing Balance $'000
Ewater CRC[1]	–	500	–	**500**
Invasive Animals CRC	–	1,100	(510)	**590**
Murray–Darling Freshwater Research	517	628	(349)	**796**
	517	2,228	(859)	**1,886**

1. Ewater CRC was not able to produce financial statements to allow inclusion of the net operating result for the financial year needed 30 June 2006. The investment in the Ewater CRC is therefore reflected at total of the initial contributions.

	2006 $'000	2005 $'000

Note 8: Interest Bearing Liabilities

Leases		
Finance Lease Commitments		
Payable:		
Within one year	**97**	86
In one to five years	**–**	57
Minimum lease payments	**97**	143
Deduct: future finance charges	**2**	10
Net Lease Liability	**95**	133
Lease liability is represented by:		
Current	**95**	77
Non–current	**–**	56
Net Lease Liability	**95**	133

The finance lease exists in relation to the fitout of offices at 15 Moore Street, Canberra. The lease is non cancellable and for a fixed term expiring on 28 February 2007. The initial term of the lease is still current and may be renewed for a further five years at the Commission's option.

The interest rate implicit in the lease is 8.75%.

Note 9: Provisions

Employee Provisions		
Accrued salaries and wages	**75**	–
Annual Leave	**618**	638
Long service leave	**1,084**	790
Aggregate employee entitlement liability	**1,777**	1,428
On–costs	**223**	204
Aggregate employee entitlement liability and related on–costs	**2,000**	1,632
Current	**1,531**	861
Non–current	**469**	771
	2,000	1,632
Accrued salaries and wages in 2004–2005 were disclosed in Note 10 – Payables.		
Other Provisions		
Leadership Network	**–**	104
	2,000	1,736

	2006 $'000	2005 $'000
Note 10: Payables		
Note 10A: Goods and Services Payable		
Trade creditors and accruals	**22,832**	26,820
Accrued salaries and wages	**–**	35
Total goods and services payable	**22,832**	26,855
Goods and Services Payable are represented by:		
Current	**22,832**	26,855
Total Supplier Payables	**22,832**	26,855
Settlement is usually made net 30 days		
Note 10B: Revenue Received in Advance		
Carry–over of current year contributions to future year	**3,564**	4,636
Project funding received in advance	**1,318**	64
Total Revenue Received in Advance	**4,882**	4,700
All revenue received in advance are current liabilities.		

Notes to and forming part of the Financial Statements

Note 11: Equity

Note 11A: Analysis of Equity

Item	Retained Surplus		Asset Revaluation Reserve		Contributed Equity		Total Equity	
	2006	2005	**2006**	2005	**2006**	2005	**2006**	2005
	$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000
Opening balance as at 1 July	**1,213,480**	1,220,253	**148,007**	148,007	**3,144**	3,144	**1,364,631**	1,371,404
Net surplus / (deficit)	**495,536**	(6,773)	**–**	–	**–**	–	**495,536**	(6,773)
Gross revaluation increment / (decrement)	**–**	–	**576,677**		**–**	–	**576,677**	–
Accumulated depreciation revaluation increment/ (decrement)	**–**	–	**(233,603)**		**–**	–	**(233,603)**	–
Net revaluation increment / (decrement)	**–**	–	**343,074**		**–**	–	**343,074**	
Transactions with owners:	**–**	–	**–**	–	**–**	–	**–**	–
Contributions by owners:	**–**	–	**–**	–	**–**	–	**–**	–
Equity injections	**–**	–	**–**	–	**–**		**–**	
Closing balance as at 30 June	**1,709,016**	1,213,480	**491,081**	148,007	**3,144**	3,144	**2,203,241**	1,364,631

	2006 $'000	2005 $'000

Note 12: Cash Flow Reconciliation

Reconciliation of net surplus to net cash from operating activities

Net surplus / (deficit)	**495,536**	(6,773)
Depreciation / amortisation	**15,932**	22,565
Share of joint venture (surplus)/deficit	**859**	(15)
Loss on disposal of assets	**8**	11
Decrease in advances held by construction authorities	**–**	64
(Increase)/decrease in Intangibles	**(1,881)**	(1,596)
(Increase) in net receivables	**4,583**	(2,065)
(Increase) in inventories	**19**	(139)
Decrease in prepayments	**(21)**	(78)
Increase / (decrease) in employee provisions	**368**	40
Increase in supplier payables	**(4,027)**	3,880
(Decrease) in revenue received in advance	**182**	45
Increase in other provisions	**(104)**	103
Net cash from operating activities	**511,454**	16,042

Note 13: Contingent Liabilities and Assets

Quantifiable Contingencies

Nil

Unquantifiable Contingencies

In October 2002, a landowner commenced proceedings against the Commission and former Commissioners in the Supreme Court of New South Wales in relation to the release of water from Hume Dam in 1996. The Commission is defending the action.

In 2003, the Commission was joined as a party to a matter before the courts related to land rights. It is not possible to estimate any liabilities arising out of this matter.

Note 14: Executive Remuneration

	2006	2005
The number of executives who received or were due to receive total remuneration of $130,000 or more:		
$130,000 to $144,999	–	–
$160,000 to $174,999	2	1
$175,000 to $189,999	2	2
$205,000 to $219,999	2	1
$250,000 to $264,999	–	1
$280,000 to $294,999	1	–
	7	5
The aggregate amount of total remuneration of executives shown above	$1,423,532	$1,117,795
The aggregate amount of separation and redundancy termination benefit payments during the year to executives	Nil	Nil

"Remuneration" refers to salary, accrued leave, performance pay, employer superannuation, estimated cost of motor vehicles provided as part of a remuneration package, spouse travel entitlements, separation and redundancy/termination benefit payments and related on costs including fringe benefits tax paid during 2005–2006 for officers concerned with the management of the Office of the Commission where the total paid in respect of an individual exceeded $130,000.

Note 15: Remuneration of Members of the Commission

Remuneration is paid to one executive member. No remuneration is paid to non–executive members who are State or Commonwealth public servants or officers of State agencies. The remuneration paid to the executive member is less than $100,000 p.a.

Note 16: Remuneration of Auditors

	2006 $'000	2005 $'000
Remuneration to be paid to Australian National Audit Office for auditing Financial Statements for the reporting period	37,500	31,000
AEIFRS opening balance sheet audit	–	7,000
	37,500	38,000
No other services were provided by the Australian National Audit Office		
Remuneration paid for internal audit services during the reporting period	60,193	100,679
Other services	21,900	137,637
	82,093	238,316

Note 17: Average Staffing Levels

	2006	2005
The average staffing levels for the Commission during the year were:	122	117

Notes to and forming part of the Financial Statements

Note 18: Financial Instruments

Note 18A: Interest Rate Risk

The Commission's exposure to interest rate risk and the effective weighted average interest rate for classes of financial assets and financial liabilities is set out below:

	Notes	Floating Interest Rate		Fixed Interest Rate Maturing in						Non Interest Bearing		Total		Weighted Average Effective interest Rate	
				1 Year or less		1 to 5 Years		>5 years							
		2006	2005	**2006**	2005	**2006**	2005	**2006**	2005	**2006**	2005	**2006**	2005	**2006**	2005
		$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000	**%**	%
Financial Assets															
Cash at Bank	6A	**5,835**	10,199	**–**	–	**–**	–	**–**	–	**–**	–	**5,835**	10,199	**5.58**	5.32
Cash on hand	6A	**–**	–	**–**	–	**–**	–	**–**	–	**–**	–	**–**	–	**n/a**	n/a
Short Term Deposit	6A	**–**	–	**525,000**	30,000	**–**	–	**–**	–	**–**	–	**525,000**	30,000	**5.73**	5.62
Receivables	6B	**–**	–	**–**	–	**–**	–	**–**	–	**2,797**	7,380	**2,797**	7,380	**n/a**	n/a
Advance to Constructing Authorities	6C	**–**	–	**–**	–	**–**	–	**–**	–	**824**	824	**824**	824	**n/a**	n/a
TOTAL		**5,835**	10,199	**525,000**	30,000	**–**	–	**–**	–	**3,621**	8,204	**534,456**	48,403		
TOTAL ASSETS												**2,233,050**	1,398,055		
Financial Liabilities															
Finance Lease	8	**–**	–	**95**	77	**0**	56	**–**	–	**–**	–	**95**	133	**8.75**	8.75
Trade and other creditors	10A	**–**	–	**–**	–	**–**	–	**–**	–	**22,832**	26,855	**22,832**	26,855	**n/a**	n/a
TOTAL		**–**	–	**95**	77	**0**	56	**–**	–	**22,832**	26,855	**22,927**	26,988		
TOTAL LIABILITIES												**29,809**	33,424		

Note 18: Financial Instruments *(continued)*

Note 18B: Credit Risk Exposure

Credit risk represents the loss that would be recognised if counterparties failed to perform as contracted. The risk on financial assets of the which have been Commission recognised on the Balance Sheet, is the carrying amount net of any provision for doubtful debts. Due to the nature of the majority of the Commission's clients, such risk is considered by the Commission to be low.

Note 18C: Net Fair Values of Assets and Liabilities

The net fair values of investments have been computed at net realisable value at Balance Sheet date. For other assets and liabilities, the net fair value approximates their carrying value. No financial assets or liabilities are readily traded on organised markets in standardised form other than investments. The aggregate net fair values and carrying amounts of financial assets and financial liabilities in the Balance Sheet are as follows.

	Notes	2006		2005	
		Total Carrying Amount $'000	Aggregate Net Fair Value $'000	Total Carrying Amount $'000	Aggregate Net Fair Value $'000
Financial Assets					
Cash at Bank	6A	**5,835**	**5,835**	10,199	10,199
Cash on hand	6A	**-**	**-**	-	-
Short Term Deposit	6A	**525,000**	**525,000**	30,000	30,000
Receivables	6B	**2,797**	**2,797**	7,380	7,380
Advance to Constructing Authorities	6C	**824**	**824**	824	824
Total Financial Assets		**534,456**	**534,456**	48,403	48,403
Financial Liabilities					
Finance Lease	8	**95**	**95**	133	133
Trade and other creditors	10A	**22,832**	**22,832**	26,855	26,855
Total Financial Liabilities		**22,927**	**22,927**	26,988	26,988

Note 19: Events Occurring after Reporting Date

No material events occurred after balance date.

Note 20: Unrecognised Liabilities

The Commission is not aware of any significant unrecognised liabilities at 30 June 2006 other than those recorded in the Schedule of Commitments.

Note 21: Liabilities assumed by Governments

Except as indicated by these statements no liabilities have been assumed by Governments.

Notes to and forming part of the Financial Statements

Note 22: Economic Dependency

The Commission is dependent on contributions by Contracting Governments to undertake its normal activities.

Note 23: Location of Business

With the exception of assistance provided to the Mekong River Commission under AusAID funding the Commission operates solely in Australia.

Note 24: Related Party Disclosures

Members of the Commission

Members of the Commission during 2005-06 were:

	Member	Representative of	Period of Membership	
President	Rt. Hon I. Sinclair		From	1/12/2003
Commissioners	Mr. J. Scanlon	SA	From	19/1/2006
	Mr. D. Borthwick	Australian Government	From	19/2/2004
	Mr B Buffer	NSW	From	1/7/2005
	Mr B. Coutler	QLD	To	3/8/2005
	Mr. R. Freeman	SA	From	17/4/2003
	Mr. J. Hallion	SA	To	18/1/2006
	Mr P. Harris	VIC	From	19/10/2004
	Ms. J.Hewitt	Australian Government	From	16/12/2004
	Prof. L. Neilson	VIC	From	24/2/2003
	Mr P. Ottesen	ACT	From	23/2/2005
	Mr J. Purtill	QLD	From	22/7/2004
	Dr. R Sheldrake	NSW	From	1/7/2005
	Ms. J. Westacott	NSW	To	2/8/2005
Deputy Commissioners	Mr G. Claydon	QLD	From	9/9/2004
	Ms. E. Fowler	ACT	To	23/7/2005
	Mr. D. Harriss	NSW	From	1/10/1997
	Mr. A. Holmes	SA	From	20/6/2004
	Ms. A. Howe	SA	To	18/1/2006
	Dr. C. O'Connell	Australian Government	From	22/2/2001
	Ms. L. Corbyn	NSW	To	30/6/2006
	Mr. C. Robson	QLD	To	4/8/2005
	Mr. D Downie	Vic	From	30/8/2005
	Mr. G. Wilson	VIC	To	28/10/2005
	Mr. B. Wonder	Australian Government	To	26/8/2005
	Mr. B. Turner	QLD	From	1/12/2005
	Mr. J. Hallion	SA	From	19/1/2006
	Mr. J. Hallion	SA	To	21/6/2006
	Mr G. Knight	SA	From	22/6/2006

Loans to Members and Officers

No loans were made to members or officers of the Commission.

Note 24: Related Party Disclosures *(continued)*

Transactions with Related Entities

The Murray-Darling Basin Commission is the executive arm of the Ministerial Council established by the 1992 Murray-Darling Basin Agreement. The Commonwealth and the States of New South Wales, Victoria, South Australia and Queensland are parties to this agreement whilst the Australian Capital Territory participates by a Memorandum of Understanding. Funds for activities under the direction of the Commission are paid to the Commission by the participating governments and disbursed according to Commission priorities. A high proportion of the Commission funded activity is undertaken by State Agencies. All transactions are at arms length and in accordance with budgets and programs approved by the Ministerial Council.

Note 25: Explanation of Transition to AEIFRS

As stated in significant accounting policies note (a) these are the entity's first financial statements prepared in accordance with AEIFRSs.

The policies set out in the significant accounting policies section of this report have been applied in preparing the financial statements for the year ended 30 June 2006, the comparative information presented in these financial statements for the year ended 30 June 2005 and in the preparation of the opening AIFRS balance sheet as at 1 July 2004 (the entity's date of transition).

In preparing its opening AEIFRS balance sheet, the entity has adjusted amounts previously reported in financial statements in accordance with the old basis of accounting (previously GAAP). An explanation of how the transition from GAAP to AEIFRS's has affected the entity's financial position, financial performance and cashflows is set out in the following tables and the notes that accompany the tables.

Reconciliation of Equity

	Previous GAAP	Effect of Transition to AEIFRSs	AEIFRSs	Previous GAAP	Effect of Transition to AEIFRSs	AEIFRSs
	30 June 2004			30 June 2005		
Assets						
Financial assets						
Cash and equivalents	42,583		42,583	40,199		40,199
Receivables	5,301		5,301	7,380		7,380
Other financial assets	888		888	824		824
Total financial assets	48,772	–	48,772	48,403	–	48,403
Non-financial assets						
Infrastructure assets	1,350,259		1,350,259	1,345,907		1,345,907
Plant, property and equipment	1,000		1,000	1,002		1,002
Intangibles	–		–	124	1,596	1,720
Inventories	64		64	203		203
Leasehold improvements	162		162	153		153
Other non-financial assets	72		72	150		150
Interest in joint venture equity	502		502	517		517
Total non-financial assets	1,352,059	–	1,352,059	1,348,056	1,596	1,349,652
Total assets	1,400,831	–	1,400,831	1,396,459	1,596	1,398,055

Note 25: Explanation of Transition to AEIFRS *(continued)*

Reconciliation of Equity

	Previous GAAP	Effect of Transition to AEIFRSs	AEIFRSs	Previous GAAP	Effect of Transition to AEIFRSs	AEIFRSs
	30 June 2004			30 June 2005		
LIABILITIES						
Interest bearing liabilities						
Leases	204		204	133		133
Total interest bearing liabilities	204	–	204	133	–	133
Provisions						
Employees	1,592		1,592	1,632		1,632
Other non–financial assets				104		104
Total provisions	1,592	–	1,592	1,736	–	1,736
Provisions						
Goods and Services	22,976		22,976	26,855		26,855
Revenue received in advance	4,655		4,655	4,700		4,700
Total payables	27,631	–	27,631	31,555	–	31,555
Total liabilities	29,427	–	29,427	33,424	–	33,424
Net assets	1,371,404	–	1,371,404	1,363,035	–	1,364,631
EQUITY						
Contributions by contracting Governments for purchase of assets	3,144		3,144	3,144		3,144
Asset revaluation reserve	148,007		148,007	148,007		148,007
Retained surpluses	1,220,253		1,220,253	1,211,884	1,596	1,213,480
Total equity	1,371,404	–	1,371,404	1,363,035	1,596	1,364,631

Part 5: Appendixes

Appendix A: Membership of the Ministerial Council

Members from 1 July 2005 to 30 June 2006

Australian Government

The Hon. Peter McGauran, MP	Minister for Agriculture, Fisheries and Forestry (Chair) (from 7 July 2005)
Senator the Hon. Ian Campbell	Minister for Environment and Heritage
The Hon. Malcolm Turnbull, MP	Parliamentary Secretary to the Prime Minister (from 21 April 2006)
The Hon. Warren Truss, MP	Minister for Agriculture, Fisheries & Forestry (Chair) (to 6 July 2005)
Senator the Hon. Ian Macdonald	Minister for Fisheries, Forestry and Conservation (to 20 April 2006)

New South Wales

The Hon. Ian Macdonald, MLC	Minister for Natural Resources, Minister for Primary Industries and Minister for Mineral Resources
The Hon. Bob Debus, MP	Attorney-General, Minister for the Environment and Minister for the Arts
The Hon. Craig Knowles, MP	Minister for Infrastructure and Planning and Minister for Natural Resources (to 3 August 2005)

Victoria

The Hon. John Thwaites, MP	Deputy Premier, Minister for Environment and Minister for Water
The Hon. Bob Cameron, MP	Minister for Agriculture

South Australia

The Hon. Karlene Maywald, MP	Minister for the River Murray
The Hon. Rory McEwen, MP	Minister for Agriculture, Food and Fisheries
The Hon. Gail Gago, MP	Minister for the Environment and Conservation (from 23 March 2006)
The Hon. John Hill, MP	Minister for the Environment and Conservation (to 22 March 2006)

Queensland

The Hon. Henry Palaszczuk, MP	Minister for Natural Resources, Mines and Water (from 29 July 2005)
The Hon. Stephen Robertson , MLA	Minister for Natural Resources and Mines (to 28 July 2005)

Australian Capital Territory[1]

Mr Jon Stanhope, MLA	Chief Minister

1 The Australian Capital Territory became a full member of the Agreement on the 19th May 2006.

Appendix B: Membership of the Community Advisory Committee

Members from 1 July 2005 to 30 June 2006

Chairman

Mr Myles Treseder	(Chair from 2 November 2005) (Acting Chair to 1 November 2005)

Member

New South Wales

Mr Kelvin Baxter	
Mr Mark King	(to 30 April 2006)
Mr Lee O'Brien	(to 30 April 2006)

Victoria

Mr Don Cummins	
Mr Rodney Hayden	(to 30 April 2006)
Ms Sarah Nicholas	(to 30 April 2006)

South Australia

Mrs Joanne Pfeiffer	(to 30 April 2006)
Mrs Sharon Starick	
Mr Derek Walker	

Queensland

Mr John Grabbe	
Mr Clarrie Hillard	(to 30 April 2006)
Ms Sarah Moles	

Australian Capital Territory

Prof Ian Falconer

Interests

Mr Leon Broster – Urban	(to 30 April 2006)
Mr Hamish Holcombe – Dryland Farming	(to 30 April 2006)
Mr Lee Joachim – Indigenous	(to 30 April 2006)
Cr Phyllis Miller – Local Government	
Mr Mike Nolan – Indigenous	(to 24 February 2006)
Mr Nick Roberts – Environment	
Irrigation Industry – vacant	(formerly filled by Myles Treseder)

Appendix C: Membership of the MDBC

Members from 1 July 2005 to 30 June 2006

Rt Hon. Ian Sinclair AC	Independent President

Australian Government

Mr David Borthwick	Secretary, Department of the Environment and Heritage
Ms Joanna Hewitt	Secretary, Department of Agriculture, Fisheries and Forestry
Dr Conall O'Connell (Deputy)	Deputy Secretary, Department of the Environment and Heritage
Mr Daryl Quinlivan (Deputy) (elect)	Deputy Secretary, Department of Agriculture, Fisheries and Forestry
Mr Bernard Wonder (Deputy)	Deputy Secretary, Department of Agriculture, Fisheries and Forestry (to 26 August 2005)

New South Wales

Dr Richard Sheldrake	Director-General, Department of Natural Resources (from 3 September 2005)
Mr Barry Buffier	Director-General, Department of Primary Industries (from 22 March 2006 to 30 June 2006)
Ms Lisa Corbyn (Deputy)	Director-General, Department of Environment and Conservation (from 1 July 2005 to 30 June 2006)
Mr David Harriss (Deputy)	Regional Director, Murray-Murrumbidgee, Department of Infrastructure, Planning and Natural Resources
Ms Jennifer Westacott	Director-General, Department of Infrastructure, Planning and Natural Resources (to 2 September 2005)

Victoria

Prof. Lyndsay Neilson	Secretary, Department of Sustainability and Environment
Mr Peter Harris	Secretary, Department of Primary Industries
Mr David Downie (Deputy)	Deputy Secretary, Water Sector Group, Department of Sustainability and Environment (from 30 August 2005)
Mr Denis Flett (Deputy)	Chief Executive Officer, Goulburn-Murray Water (to 30 June 2005)
Mr Gregory Wilson (Deputy)	Deputy Secretary, Water Sector Division, Department of Sustainability and Environment (to 28 October 2005)

South Australia

Mr Robert Freeman	Chief Executive, Department of Water, Land and Biodiversity Conservation
Mr John Scanlon	SA Commissioner (from 12 January 2006)
Mr Allan Holmes (Deputy)	Chief Executive, Department of Environment and Heritage
Mr Geoff Knight (Deputy)	Acting Chief Executive, Department of Primary Industries and Resources (from 22 June 2006)
Mr James Hallion	Chief Executive, Primary Industries and Resources SA (Commissioner to 11 January 2006, Deputy Commissioner from 12 January 2006 to 21 June 2006)
Ms Anne Howe (Deputy)	Chief Executive, Department of Environment and Heritage (to 11 January 2006)

Queensland

Mr James Purtill	Director-General, Environmental Protection Agency
Mr Scott Spencer	Deputy Director-General, Water and Sustainable Landscapes, Department of Natural Resources, Mines and Water (from 1 December 2005)
Mr Gregory Claydon (Deputy)	General Manager, Water Planning, Department of Natural Resources, Mines and Water
Mr Bruce Turner (Deputy)	Executive Director, Strategic Policy, Industry Development, Department of Primary Industries and Fisheries (from 1 December 2005)
Mr Bryan Coulter	Deputy Director General, Department of Natural Resources and Mines (to 3 August 2005)
Mr Christopher Robson (Deputy)	Executive Director, Natural Resources Sciences Department of Natural Resources and Mines (to 4 August 2005)

Australian Capital Territory

Mr Peter Ottesen	Executive Director, Office of Sustainability
Dr Maxine Cooper	Executive Director, Environment ACT, Department of Urban Services (to 22 February 2005)
Ms Elizabeth Fowler (Deputy)	Director, Environment Protection, Environment ACT, Department of Urban Services (to 23 July 2005)

Appendix D: Committees and working groups 2005–06

Corporate Services

Commission Strategy Committee

Audit and Compliance Committee

Investment Committee (agreed but not yet constituted)

Legislative Working Group

River Murray Water

River Murray Water Committee

Lake Victoria Advisory Committee

Water Liaison Working Group

Asset Management Advisory Working Group

Salt Interception Technical Working Group

Advisory Group on Hume to Yarrawonga Waterway Management

Hume–Dartmouth Technical Review Committee

Natural Resources Management

Natural Resources Management Committee

The Living Murray Committee

Basin Salinity Management Strategy Implementation Working Group

Sustainable Rivers Audit Implementation Working Group

Native Fish Strategy Implementation Working Group

Water Policy Coordination Working Group

Project Assessment Working Group

Environmental Watering Working Group

Interstate Water Trade Working Group

Water Quality Technical Working Group

The Living Murray Environmental Works and Measures Taskforce

Water Audit Panel

Schedule E Taskforce

NWI/MDB Agreement Consistency Taskforce

The Living Murray/Basin Salinity Management Strategy Coordinating Task Force

Appendix E: MDBC publications 2005–06

Title	Pub no.
The Barmah-Millewa Forest — Asset environmental management plan overview September 2005	Brochure
The Chowilla Floodplain (including Lindsay–Wallpolla) — Asset environmental management plan overview September 2005	Brochure
Demonstration reaches for native fish March 2006	Brochure
Fish 'n' Chips December 2005	Flyer
The Gunbower Koondrook–Perricoota Forest — Asset environmental management plan overview September 2005	Brochure
The Hattah Lakes — Asset environmental management plan overview September 2005	Brochure
Keeping salt out of the Murray (update) May 2006	Brochure
Living Landscapes October 2005 (co published with Primary English Teaching Association)	
The Living Murray Environmental results 2005–2006 June 2006	Brochure
The Living Murray Environmental Watering plan — Asset environmental management plan overview September 2005	Brochure
The Living Murray: Foundation report on the significant ecological assets targeted in the first step decision July 2005	09/05
The Lower Lakes, Coorong and Murray Mouth — Asset environmental management plan overview September 2005	Brochure
Management of Murray Cod in the Murray-Darling Basin July 2005	22/05
The Murray-Darling Basin (update) June 2006	Brochure
Murray-Darling Basin Commission Annual Report 2004–2005 September 2005	23/05
Murray-Darling Basin Commission calendar 2006 December 2005	
Murray-Darling Basin Commission Strategic Plan 2005–2010 April 2006	08/06
Murray-Darling Basin Education Magazine May 2006 *(co published with The Canberra Times)*	
Perceptions on Implementing Integrated Catchment Management in the Murray-Darling Basin December 2005	20/05
Proceedings of fish habitat rehabilitation workshop November 2005	21/05
Pyramid Creek Salt interception scheme May 2006	Brochure
Review of Cap Implementation 2004–2005 — Report of the Independent Audit Group May 2006	19/06
Review of the River Murray Water Quality Monitoring Program July 2005	15/05
The River Murray Channel — Asset environmental management plan overview September 2005	Brochure
Sediments and nutrients in the rivers of the Murray-Darling Basin November 2005	14/05
Snags and Resnagging December 2005	Flyer
Sustainable Rivers Audit (SRA) Implementation Period 1 (2004–2005)—Progress Report June 2006	09/06
Water Audit Monitoring Report 2003–2004 July 2005	17/05

Appendix F: Key performance indicators for delivery of strategic plan

Objective 1

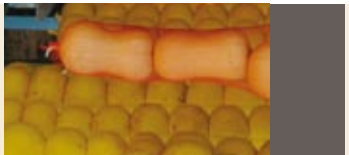
Protection and enhancement of the Basin's shared environmental assets and water resources

Key performance indicator	Strategy	Type of indicator		
		Economic	Environmental	Social
(a) Water recovery targets (as contained in the Living Murray Business Plan) achieved totalling an average of up to 500 GL per year by June 2009	Strategy 1.1		✔	
(b) Delivery of the agreed Environmental Works and Measures Program for each year of the Strategic Plan	Strategy 1.1 and 1.6	✔	✔	
(c) Baseline condition established, as part of the development and implementation of monitoring and evaluation arrangements for The Living Murray, for the six significant ecological assets by December 2006	Strategy 1.1		✔	
(d) Delivery of the Living Murray First Step Decision's ecological objectives (including for floodplain and wetland health, birds and fish) at each of the six significant ecological assets from June 2009	Strategy 1.1		✔	
(e) The Living Murray First Step evaluated on an annual basis and the development of future options considered by June 2007, consistent with the period of review for The Living Murray Business Plan (Clause 159), or earlier as requested by Ministerial Council	Strategy 1.1		✔	
Option 1		✔	✔	
(f) By June 2010, full agreement to, and compliance with, an enhanced Cap[1] in accordance with NWI deadlines and requirements	Strategy 1.2, 1.4 and 1.5			
OR				
Option 2				
(f) Full compliance with the Cap on surface water diversions, and finalisation of other valley caps within the Basin **AND**				
(g) By end 2008, full agreement to, and compliance with, integrated accounting of surface and groundwater, in accordance with NWI deadlines and requirements and considering a range of options to address the impacts of risks to water resources, which may include an enhanced Cap				

1 Including integrated accounting of surface and groundwater, and considering impacts of risks to water resources

Appendix F: Key performance indicators for delivery of strategic plan (continued)

Key performance indicator	Strategy	Type of indicator		
		Economic	Environmental	Social
(h) Across the Basin, full compliance each year with End of Valley salinity targets and maintenance of salinity registers in net credit, confirmed through annual audits	Strategy 1.3		✔	
(i) 71 EC salinity mitigation impact on target to be achieved by 2012 (61 EC by June 2010)	Strategy 1.3		✔	
(j) Demonstrated reduction in costs of salt peaks by 25% by June 2010	Strategy 1.3	✔		
(k) Annual compliance with the Basin Salinity Target to maintain salinity levels in the River Murray at Morgan in South Australia, below 800 EC for 95% of the time	Strategy 1.3	✔	✔	
(l) Annual integrated reports on the condition of, and risks to, the Basin's natural resources used in Commission and Council decision making	Strategy 1.4, 1.5 and 3.4	✔	✔	
(m) Net improvement in key native fish populations and distribution across the Basin by June 2010	Strategy 1.6		✔	



Appendix F: Key performance indicators for delivery of strategic plan (continued)

Objective 2

Efficient and equitable delivery of water for productive and sustainable domestic consumption, environmental benefit and economic use

Key performance indicator	Strategy	Type of indicator		
		Economic	Environmental	Social
(a) Delivery of State shares of available water (for domestic consumption and economic use) in 100% of instances	Strategy 2.1 and 2.5	✔	✔	✔
(b) Demonstrated track record in each year of responding to environmental watering opportunities, consistent with the Living Murray Environmental Watering Plan and the outcomes of the six Significant Ecological Assets Plans	Strategy 1.1 and 2.1		✔	
(c) Full compliance with Cap, confirmed through annual audits[2]	Strategy 1.2 and 2.1	✔		
(d) Improved measurement of shared water resources across the Basin, as required by NWI[3]	Strategy 2.4	✔		
(e) NWI directions on barrier-free market arrangements for open, interstate water trade across the southern connected Basin achieved, as required by NWI	Strategy 2.2	✔		
(f) Be within the top one-third of water asset managers in Australia by June 2010[4]	Strategy 2.3 and 2.5	✔		
(g) For large dams, measurable improvement each year until 100% compliant with Australian National Committee on Large Dams (ANCOLD) Guidelines	Strategy 2.3	✔		

2 Note that this annual reporting requirement varies from other six-monthly progress reporting to Council set out in Section VI of this Plan

3 Note that knowledge of how best to measure the shared water resource under the NWI is not yet sufficiently developed. As measures are refined, the Commission will report against them

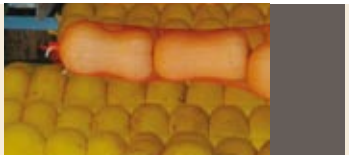
4 Note that this KPI will be measured twice during the Strategic Plan period, unlike other six-monthly progress reporting to Council set out in Section VI

Appendix F: Key performance indicators for delivery of strategic plan (continued)

Objective 3

Delivery of high quality advice to Council, and achievement of its endorsed priorities, through strengthened capacity of the Commission and the Commission Office

Key performance indicator	Strategy	Type of indicator		
		Economic	Environmental	Social
(a) Ministerial Council satisfied with quality and timeliness of advice, that decisions have been implemented effectively and that its Community Advisory Committee has been provided with appropriate information and has been well supported (all measured annually)	Strategy 3.1, 3.2, 3.4 and 3.5	✔		
(b) Commissioner satisfaction with Commission Office's secretariat services, budget development, and management and performance reporting, to reach 9/10 by 2007	Strategies 3.1, 3.2 and 3.3	✔		
(c) Revised governance and committee structure in place by December 2005	Strategy 3.3 and 3.5	✔		
(d) Staff satisfaction survey improvement year on year	Strategy 3.2			✔
(e) Zero long term injury frequency rate in each year	Strategy 3.2			✔



Community Advisory Committee Annual Report 2005–06

The Hon Peter McGauran MP
Minister for Agriculture, Fisheries and Forestry
Parliament House
CANBERRA ACT 2600

Dear Minister

I would like to submit the Community Advisory Committee's annual report for 2005-06 to be tabled together with the Murray-Darling Basin Commission's annual report in the parliaments of Australia, New South Wales, Queensland, South Australia and Victoria, and the Legislative Assembly of the Australian Capital Territory.

This report describes activities undertaken in the second year of operation of the fourth Community Advisory Committee. Key achievements include the establishment of the Community Advisory Committee's The Living Murrray Community Reference Group and three working groups of the Committee - the Healthy Basin Working Group, the Community Engagement Working Group and the Menindee Lakes Working Group. Together these Groups support the Committee's Terms of Reference, in engaging with communities through communication and consultation activities to provide strategic advice to the Ministerial Council and support future policy development for the Murray-Darling Basin Initiative.

I commend the 2005-06 Annual Report of the Community Advisory Committee to the five parliaments and the ACT Legislative Assembly.

Yours sincerely

Myles Treseder
Chairman (2 November 2005 to 30 June 2006) and
Acting Chairman (1 July to 1 November 2005)

Foreword

The Community Advisory Committee (CAC) met formally four times in regional locations in the northern and southern Basin. The meetings involved interactions with local, regional and special interest groups to build knowledge, create shared understandings, foster relationships and develop networks within communities.

In addition, the CAC held a joint meeting with Ministerial Council on 30 September 2005. Key topics of conversation were The Living Murray, particularly communication; Integrated Basin Reporting including the ICM surveys in which the CAC played a key role; the Basin Capacity Building Plan and MDB Leadership Program; and Indigenous engagement. Four members of the CAC gave presentations at this meeting.

Membership

During the first half of the year, the CAC operated under the direction of the Deputy Chairman and Irrigation representative, Mr Myles Treseder, until his appointment as Chairman was confirmed on 2 November 2005, for a term of twelve months. At that time, the Irrigation representative position became vacant. The Indigenous representative for the Northern Basin also tendered his resignation, due to work commitments, in January 2006.

As Acting Chairman, Mr Treseder attended the Commission meeting held in August 2005 and the joint CAC/Council and formal Council meetings, held 30 September 2005. Ms Sarah Nicholas assumed a de facto role of Deputy Chairman and has attended the Commission meetings in that capacity.

The CAC operating arrangements agreed by Ministerial Council in 2003 included a 50 per cent change in membership every two years, in order to maintain corporate knowledge and allow for business continuity. A selection process for the following positions commenced in January 2005: irrigation (1); Victoria (2); New South Wales (2); South Australia (1); dryland farming; urban communities; Indigenous (2). As at 30 June 2006, the appointments were yet to be finalised.

Business for the year was conducted within the framework of the CAC Business Plan 2004–2006 endorsed by Ministerial Council in November 2004.

Strategic advice to Council on NRM issues

The Living Murray

The Living Murray remained a focus for CAC advice to Council, particularly relating to communication of The Living Murray Business Plan and progress of the initiative to communities. Key advice included:

- suggested amendments to The Living Murray Environmental Watering Plan 2006–07
- the establishment of a reference panel to provide independent advice on economic, social and cultural aspects of mplementing The Living Murray Business Plan
- the need for ongoing communication in the development of environmental watering and asset management plans, proposed actions, responsibilities, timing and progress reports that outline the benefits that have been achieved
- the need for further development and commitment to cultural flows and the rights and responsibilities of Indigenous people
- the need for transparent processes and a decision-making framework for determining priorities between asset plans
- the need to further investigate opportunities for fair and transparent market-based measures for water recovery, including how to address communities' concerns about the impact on the market, irrigators and communities
- that the Indigenous Partnerships Project be progressed.

The Community Advisory Committee's The Living Murray Community Reference Group held the first of three meetings for the year in July 2005. The focus of the Group's activity has been review of, and input to, The Living Murray Environmental Watering Plan and the River Murray Channel Asset Environmental Management Plan. Initial meetings were focused on gaining a level of familiarity with the Murray-Darling Basin Initiative, The Living Murray initiative and the detail of the plans, to enable the Group to provide considered advice. A line of reporting through the Community Advisory Committee, then The Living Murray Committee and down to working groups overseen by that Committee has been problematic and is currently under review.

The Darling Initiative

Following support from the CAC in 2004–05, a community-led Darling Initiative Working Group was established to develop a framework for 'the integrated management of the rivers of the Darling Basin'. The CAC maintained a watching brief on the progress of the group and brought their proposals to Ministerial Council for consideration in September 2005.

Indigenous engagement

The CAC has maintained strong linkages with the Indigenous people of the Basin through representatives on the Committee and through wider networks. It supported the development of a Memorandum of Understanding with the Murray Lower Darling Indigenous Nations, which was signed at a ceremony in Albury in March 2006.

The CAC has promoted the formation of a similar relationship with the Northern Rivers Indigenous Nations.

The recent endorsement of the Murray-Darling Basin Indigenous Action Plan by Commission in March 2006 was met with regret by the CAC, who had supported a stronger principles-based approach to engaging Indigenous peoples in natural resource management (NRM) issues. The development of protocols for the conduct of CAC business in a manner respectful of Indigenous people will continue to be facilitated once new Indigenous representatives have been appointed to the Committee.

Continuity of support for regional NRM bodies

The CAC advised that there is increasing concern amongst the community that the roll-over from National Action Plan for Salinity and Water Quality/Natural Heritage Trust II will not be seamless. There is potential for this to impact on the current and ongoing activities of regional NRM bodies in implementing their accredited strategies.

Disseminating Council's decisions

CAC members participated in a series of regional forums in June and July 2005, which followed on from a larger gathering in Mildura, providing communities with information on the implementation of The Living Murray Business Plan. The forums outlined the processes for the recovery, management, accounting and delivery of water under the Business Plan to the six icon sites of The Living Murray Initiative.

The CAC has launched a public section of its own website, which is updated after each meeting, providing communities with another avenue for information about the CAC, its activities and access to CAC communiqués.

Community engagement

Meetings, workshops and public forums have been held throughout the Basin, including Moree, Echuca, Dubbo and Renmark.

The July meeting of the CAC included a joint meeting with the Murray and Lower Murray Darling Indigenous Nations. Issues discussed included the MDB Indigenous Action Plan and opportunities to exchange information between the two committees.

The CAC participated in a joint workshop with the Darling Initiative Working Group at their February meeting in Dubbo.

A joint meeting with the South Australia NRM Board, preceded by a tour of the Chowilla Floodplain, was held in conjunction with the June CAC meeting in Renmark. The two groups discussed local and regional issues including: the development of market-based measures; opportunities for the Board and other NRM groups

to provide input to the CAC; the engagement of the indigenous community and the status of the Indigenous Action Plan; activities occurring at the SA icon sites; and feedback on the key performance indicators from the Integrated Catchment Management Policy.

Policy development

CAC members have continued to be involved with Commission committees and working groups through participation on:

- ICM Policy Committee (now Natural Resources Management Committee), Finance Committee (now Commission Strategy Committee), The Living Murray Advisory Board/Committee
- Interstate Water Trade Project Board, Indigenous Action Plan Project Board, Sustainable Rivers Audit Implementation Working Group, Groundwater Technical Reference Group.

SA Minister for the River Murray, The Hon Karlene Maywald MP joined the CAC, SA Natural Resource Management Board members and community groups in an inspection of the Chowilla Floodplain in June 2006

(Photo: Jane Verdon)

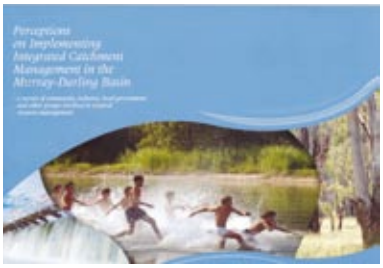
The CAC formed the following internal working groups to discuss policy issues and draft policy frameworks for consideration by the CAC as a whole:

1. Healthy Basin Working Group – to provide advice to the CAC on expanding The Living Murray through the development of a project that encompasses the ecological health of the entire Basin. Early issues to be addressed include assessing knowledge gaps particularly relating to social and economic factors and a basin-wide scan of activity that can feed into future decisions for The Living Murray or other Basin health initiatives.
2. Engagement Working Group – to provide advice to the CAC on the development of an policy and action to improve participation in and understanding of the MDB Initiative. This would integrate with other MDBC policies and potentially detail a system where all stakeholders would know their responsibilities, and be able to provide sufficient capacity, to implement an agreed course of action.
3. Menindee Lakes Working Group – to provide advice to the CAC on the proposed structural works at Menindee Lakes.

ICM Approach

The CAC continues to support the Integrated Catchment Management (ICM) approach, as established by the Murray-Darling Basin Policy launched in 2001, and has adopted the values and principles contained in the ICM Policy to guide its operation.

In September 2005, the CAC published its first report in the form of a booklet titled *Perceptions on Implementing Integrated Catchment Management in the Basin*. This booklet summarised the key findings from research undertaken in 2004–05 relating to community perceptions on key aspects of implementing the ICM approach, including knowledge, engagement and governance. Follow-on surveys have been planned for July and August 2006.



The CAC supports the new Integrated Basin Reporting framework and suggested to Ministerial Council that the Integrated Catchment Management Performance Measures should be adaptively incorporated into this framework. In addition, the CAC has expressed an interest in being involved in the development of the framework.

Performance report

The CAC Business Plan includes a number of performance indicators. Analysis of progress in implementing the Business Plan is tracked against these indicators. The performance against these indicators is summarised below.

Advice to Council

Following the joint meeting with Council in September 2005, the format of joint meetings and the nature of advice to Council have been reviewed. The Chairman has met with the Council Chairman and other Ministers to determine how the CAC can provide the most effective advice and services to the Council. The CAC put 15 issues to Council for adoption, with Council agreeing to two and noting the rest.

Disseminating Council decisions

The CAC distributes a communiqué to inform the community of the outcomes of their meetings. Decisions from Ministerial Council are disseminated using the formal communiqué issued following these meetings as a basis and also through CAC member's networks.

The CAC released two communiqués from its meetings. In addition, the CAC convened one public meeting to inform the community of the activities of the CAC and to listen to issues from the community.

Policy development

Eight members have participated in 26 meetings and working groups, providing 15 per cent activity reports back to the CAC. To date, one issue has been promoted to Ministerial Council from CAC working groups. South Australian, New South Wales and Victorian members have met with their Commissioners and Ministers to provide briefings prior to Commission and Council meetings. Several members have also provided briefings to Australian Government ministers.

Informing CAC members and capacity building

The CAC Chairman and one member attended a meeting of the Lake Eyre Basin Community Advisory Committee to exchange information and discuss issues of mutual interest. The Chairman has also attended meetings of irrigation groups in Victoria and NSW, the Australian National Committee on Irrigation and Drainage (ANCID) conference, and MDBC on-ground activities.

CAC members also regularly attend other local meetings and maintain networks across groups in their regional community.

Secretariat support

The Secretariat provided support to four meetings including a field inspection to the Chowilla Floodplain and joint meetings with Darling Initiative Working Group, MLDRIN and the SA NRM Board.

Glossary

anabranch. A branch of a river that leaves the main stream and rejoins it further downstream.

barrages. Five low, wide weirs built at the Murray Mouth to reduce the amount of seawater moving in and out of the Mouth due to tidal movement. They also help control the water level in the Lower Lakes and River Murray below Lock 1.

aquifer. An underground layer of soil, rock or gravel able to hold and transmit water.

baseline conditions. The current status of a system.

Basin Salinity Management Strategy (BSMS). This strategy guides communities and governments in working together to control salinity in the Murray-Darling Basin and their catchments. It establishes targets for the river salinity of each major tributary valley and the Murray-Darling system itself that reflect the shared responsibility for action both between valley communities and states.

biodiversity. The variety of life forms, plants, animals and micro-organisms; the genes they contain; the ecosystems they form; and ecosystem processes.

Cap on water diversions. The limit imposed on the volume of surface water that can be diverted from rivers for consumptive uses. Started in 1995 as the Interim Cap.

catchment. The area of land drained by a river and its tributaries.

cavitation. Erosion of hydraulic structure surfaces (e.g. steel or concrete) due to the implosion of cavities in a fluid, particularly evident in areas of high flow and marked change of pressures, and characterised by pitting of the surface. It can be structurally damaging if severe and not addressed.

channel capacity. The volume of water that can pass along the river channel at a certain point without spilling over the tops of the banks.

connectivity. Related to maintaining connections between natural habitats, such as a river channel and adjacent wetland areas.

consumptive use. Water that is used by other than natural processes by human beings and not returned to streams or groundwater. This includes water used in farm irrigation and water use in residences and businesses.

Council of Australian Governments (COAG). The peak intergovernmental forum in Australia, comprising the Prime Minister, state premiers, territory chief ministers and the President of the Australian Local Governments Association.

demonstration reach. A large-scale river reach in which multiple management interventions are applied in order to demonstrate to the community the cumulative benefits of integrated river rehabilitation.

drawdown targets. A lake level to which it is planned to lower a reservoir or lake as part of an operations cycle, e.g. for environmental or water quality reasons. In some cases there is a targeted rate at which the drawdown occurs, as well as the level target.

dredging. A process whereby machines equipped with scooping or suction devices remove mud etc., in order to deepen a waterway.

easement. A grant of rights over land by a property owner in favour of another person to enter onto land for the purpose of installing and maintaining facilities such as cables, pipelines, etc. An easement may also grant the right to cross over land in order to gain access to other land.

EC (units). Electrical conductivity unit commonly used to indicate the salinity of water (1 EC = 1 microsiemen per centimetre, measured at 25°C).

end-of-valley targets. A water quality target for salinity, set for a point in the lower reach of each catchment.

environmental flows. Any river flow pattern provided with the intention of maintaining or improving river health.

environmental outcome. Project outcomes that benefit the ecological health of the river system.

Environmental Works and Measures Program (EWMP). An eight-year, $150 million program to deliver works and measures to improve the health of the River Murray system by making the best use of the water currently available, optimising the benefits of any water recovered in the future, and considering other policy interventions.

estuary. The part of a river in which water levels are affected by sea tides, and where fresh water and salt water mix.

exchange rate trade. An arrangement under which a water entitlement within a state (origin) is cancelled, extinguished or suspended and an equivalent entitlement is created within another state (the destination). The exchange rates are based on a set of principles that are considered to be equitable with regard to all water users (that is, minimises third party impacts).

failure modes effects analysis. A process to determine all the modes by which an asset may fail, the likelihood of that failure and the consequences of failure.

First Step Decision. A decision announced in November 2003 by the Murray-Darling Basin Ministerial Council. The initial focus of the First Step Decision is on maximising environmental benefits for the six significant ecological assets.

fishway. A structure that provides fish with passage past an obstruction in a stream.

flow regime. The spatial and temporal pattern of flows in a river.

fresh. A small rise in river flows, over and above normal flow conditions.

groyne. A protective structure of stone or concrete that extends from the shore into the water to prevent a beach or riverbank from washing away.

hydrology. The study of the distribution and movement of water.

icon sites. Now referred to as icon sites, these six locations were chosen because they are of regional, national and international importance for their ecological value, and there is concurrence that they are at risk and require improved water flow regimes. These sites are Barmah–Millewa Forest, Gunbower–Koondrook–Perricoota forest, Hattah Lakes, Chowilla Floodplain, Murray Mouth, Coorong and Lower Lakes, and the River Murray Channel.

integrated catchment management (ICM). A process through which people can develop a vision, agree on shared values and behaviours, make informal decisions and act together to manage the natural resources of their catchments. Their decisions on the use of land, water and other environmental resources are made by considering the effect of that use on all those resources and on all people within the catchment.

lock. Consists of a rectangular chamber of concrete with gates at each end. It allows vessels to move from one water level to another.

macroinvertebrate. An invertebrate animal (animal without a backbone) large enough to be seen without magnification.

MSM_Bigmod. The Murray Simulation Model MSM-Bigmod is a suite of in-stream hydrologic models of flow and salinity for the Murray River used to establish Baseline Conditions and to assess the salinity impacts of Accountable Actions and Delayed Salinity Impacts.

Murray Darling Association (MDA). A non-government organisation that represents local governments within the Murray-Darling Basin.

Murray-Darling Basin (MDB). The entire tract of land drained by the Murray and Darling Rivers. The basin covers land in Queensland, New South Wales, the Australian Capital Territory, Victoria and South Australia.

Murray-Darling Basin Commission (MDBC). The executive arm of the Murray-Darling Basin Ministerial Council. MDBC is responsible for managing the River Murray and the Menindee Lakes system of the lower Darling River and advising the Ministerial Council on matters related to the use of water, land and other environmental resources of the Murray-Darling basin.

Murray-Darling Basin Initiative. A partnership of governments and communities formed to enhance the environmental resources of the Murray-Darling Basin.

Murray-Darling Basin Ministerial Council (MDBMC). A council of ministers of contracting governments who hold land, water and environment portfolios. A minister of the Australian Capital Territory also participates under the terms of the memorandum of understanding.

National Action Plan for Salinity and Water Quality (NAPSWQ). A commitment of $1.4 billion over seven years for applying regional solutions to salinity and water quality problems. The aim is for all levels of government, community groups, individual land managers and local businesses to work together in tackling salinity and improving water quality.

National Water Initiative (NWI). In June 2004 the Council of Australian Governments reached agreement on a National Water Initiative to improve the security of water access entitlements, ensure ecosystem health, expand water trading, and encourage water conservation in our cities.

Native Fish Strategy (NFS). This strategy aims to ensure that the Murray-Darling Basin sustains viable fish populations and communities throughout its rivers. The goal of this strategy is to rehabilitate native fish communities to 60 per cent of their estimated pre-European settlement levels within 50 years of implementation.

'notch' erosion. Erosion of a river bank that is caused by having a constant river level for an extended time period.

pile field. A series of closely spaced timber logs driven vertically into stream beds and banks to reduce erosion by dispersing stream energy and diverting flow away from sensitive areas.

rain rejection. The rejection of water (because it has rained while the water is in transit via river or irrigation canal) ordered for irrigation after it leaves the reservoir but before it is taken up by irrigators.

Ramsar. A wetland of international importance as listed in the Ramsar Convention in Iran.

Reference Group. A committee involving a range of expertise to inform and critique projects and project findings.

regulated flow. A controlled flow rate resulting from the influence of a regulating structure, such as a dam or weir.

remotely operated gate. A regulating gate that may be operated from a remote location, such as an office.

renewals annuities. A constant annual amount of funds that over a given time will provide sufficient funds for foreseeable maintenance programs to keep assets at a standard fit for purpose.

riparian. Of, inhabiting, or situated on, the bank and floodplain of a river.

river health. Status of a river system based on water quality, ecology and biodiversity.

River Murray Water (RMW). An internal business unit of the MDBC responsible by specific delegation for exercising the MDBC's function for water and asset management.

salinity. The concentration of dissolved salts in groundwater or river water, usually expressed in EC units or milligrams of dissolved solids per litre.

salinity credits and debits. Accounting units for the Salinity and Drainage Strategy. Credits are obtained through measures that reduce salinity of the River Murray.

salt interception scheme. Involves large-scale groundwater pumping and drainage projects that intercept saline water flows and dispose of them, generally by evaporation.

significant ecological asset (SEA). Now referred to as icon sites, these six locations were chosen because they are of regional, national and international importance for their ecological value, and there is concurrence that they are at risk and require improved water flow regimes. These sites are Barmah–Millewa Forest, Gunbower–Koondrook–Perricoota forest, Hattah Lakes, Chowilla Floodplain, Murray Mouth, Coorong and Lower Lakes, and the River Murray Channel.

stoplog. A beam (timber, concrete or steel) inserted into a slotted frame to retain water.

Sustainable Rivers Audit (SRA). A program designed to measure the health of the rivers within the Murray-Darling Basin. The Audit aims to determine the ecological condition and health of river valleys in the Murray-Darling Basin; to give us a better insight into the variability of river health indicators across the Basin over time; and to trigger changes to natural resource management by providing a more comprehensive picture of river health that is currently available.

tagged trading. The method by which the water that becomes allocated to an entitlement issued within a State (the origin) is made available for use in another area of the State or another State altogether (the destination). Water transferred through this method always retains the characteristics of the entitlement to which it was originally allocated.

turbidity. The relative clarity of water, which may be affected by material in suspension in the water.

water market. The buying and selling of water entitlements, on either a temporary or permanent basis, in order to improve the efficiency of water use.

water recovery. Implementation of measures that result in water being made available under TLM environmental watering plan.

weir. A dam placed across a river or canal to raise or divert the water, or to regulate or measure the flow.

weir pool. The body of water stored behind a weir.

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MURRAY-DARLING BASIN COMMISSION VALUES STATEMENT

We will manage and conduct our business in a highly professional and ethical manner, and according to the values jointly agreed with the Community Advisory Committee. These values require particular behaviours that will cement our relationships with our stakeholders and the wider community, and will underlie all decisions, actions and relationships we enter into. We will promote the values so that all people and organisations that have dealings with the MDBC know what to expect from us and what we expect from them.

Courage

We will take a visionary approach, provide leadership and be prepared to make difficult decisions.

Inclusiveness

We will build relationships based on trust and sharing, considering the needs of future generations, and working together in a true partnership. We will engage all partners, ensuring that partners have the capacity to be fully engaged.

Commitment

We will act with passion and decisiveness, taking the long-term view and aiming for stability in our decisions. We will take a Basin perspective and a non-partisan approach to managing the Basin.

Respect

We will tolerate different views; act with integrity, openness and honesty; be fair and credible; use resources equitably; respect the environment; share knowledge and information; respect each other and acknowledge the reality of each other's situation.

Flexibility

We will accept reform where it is needed, and be willing to change and continuously improve our actions.

Practicability

We will choose practical, long-term outcomes, select viable solutions to achieve these outcomes and ensure that all partners have the capacity to play their agreed part.

Mutual obligation

We will share responsibility and accountability. We will act responsibly, with fairness and justice. We will support each other through necessary change.